

MICHELE SBACCHI

# REVERSIBLE DOCTRINE

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Essays on the unstable discipline of architectural design

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The background of the entire page is a grayscale photograph of a window pane covered in numerous raindrops of varying sizes. In the background, through the glass, a blurred cityscape is visible, featuring several tall buildings and a bridge, suggesting a view from a high vantage point like a skyscraper.

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## ↘ Preface. Reverting the doctrine

*"Los principios en los que se basa la arquitectura son tan abiertos y generosos, que permite, en cada época, reinventarla"*<sup>1</sup>

Vicente Guallart

The essays collected in this book were written for different occasions. Nonetheless there is, at least for the majority of them, an underlying thematic convergence. This has been stressed by means of substantial alterations made for the final version. In writing this book I made effort to achieve the ambitious aim of not renouncing the complexity of architectural thinking. In my view this complexity is essential and, despite being confusing, I believe it is behind the vigour and richness of architectural production.

Indeed, as the title says, it is a complexity that borders on instability. The opening quote which I took from Vicente Guallart makes manifest reference to the reversibility of our discipline. Yet for this I might just as well quote many other architects. Throughout this book Michel Foucault's ideas about "order of thought" have certainly been inspiring. Therefore I find appropriate to quote him as far as "discontinuity in culture" is concerned: "Generally speaking, what does it mean, no longer being able to think a certain thought? Or to introduce a new thought? Discontinuity – the fact that within the space of a few years a culture sometimes ceases to think as it had been thinking up till then and begins to think other things in a new way – probably begins with an erosion from outside, from that space which is, for thought, on the other side, but in which it has never ceased to think from the very beginning."<sup>2</sup>

Foucault's words cast a reassuring light over the perils of the instability of architectural design and I would have the reader understand that it is a rather challenging issue. Therefore the book does not try to systematise or simplify the oversized and very heterogeneous mass of architectural theory. Nor does it pretend to give an answer

to the questions and problems which arise.

Yet this book acts controversially: it moves between the extreme ends of architectural thought. It is true that, on one hand, it aims to describe the reversibility of architecture but it is equally true that, on the other hand, it is an attempt to reconsider some fundamentals of architectural thought. Indeed, despite the defence of instability, and praise for reversibility, the book tries to focus on some archetypal tools of thought and the way they have been used within architectural thinking. Principles, rules, abstraction as well as type and scheme are traced along their complex itineraries within theory. To this respect a special place is given to the notion of construction with reference to its use in Kant, Foucault and Giorgio Grassi. To achieve this aim some of the realms that both Foucault and Grassi have “inhabited” have been considered, namely taxonomies and handbooks.

Other topics like the use of wood, clothing, landscape, domesticity and secularization help to broaden the problematic field.

Moreover, the book is lightly permeated by a recent personal discomfort with the load of a culture, which turns out to be restrictive. I refer to the Heideggerian thought that has been in my mind since my early studies.<sup>3</sup> To some of the conservative and pessimistic views brought about by that tradition I would like to substitute a more positive attitude that, for example, is readable in these words by Rem Koolhaas: “One of the peculiar beauties of the 20<sup>th</sup> century context is that it is no longer the result of one or more architectural disciplines that evolve almost imperceptibly; instead it represents the simultaneous formation of distinct archeological layers – a perpetual pendulum movement in which each architectural doctrine contradicts and in fact undoes the essence of the previous one as surely as day follows night.”<sup>4</sup>

1. Vicente Guallart, “Principios,” in Manuel Gausa, Vicente Guallart and others. *Diccionario Metapolis de la Arquitectura Avanzada* (Barcelona: Actar, 2001); English translation as *The Metapolis Dictionary of Advanced Architecture. City, Technology and Society in the Information Age* (Barcelona: Actar, 2003), p. 475.

2. Michel Foucault, *Le mots et les choses* (Paris: Gallimard, 1966); English translation as *The Order of Things: An Archaeology of the Human Sciences* (New York: Pantheon Books, 1970), p. 56.

3. For a non-personal view see also Neil Leach, *Camouflage* (Cambridge, Mass.: MIT Press, 2006), which has been certainly influential.

4. OMA/Rem Koolhaas and Bruce Mau, *S, M, L, XL* (New York: Monacelli Press, 1995), p.206.







# 1 | Rules in architecture

A doctrine is likely, if not literally obliged, to be grounded on rules. It may occur that its rules are basic and general, they might even be disputable, yet they are assumed as being indispensable.

Architecture, as a doctrine, should make no exception. Yet over time only seldom has this fully happened. Nor does it happen nowadays.

Radically different attitudes towards rules, and related disputes about them, litter the entire history of architectural thought. Max Bill, to give an example, was one of those totally against the infraction of rules: he dreamt of a non-arbitrary architecture guaranteed by the observation of rules.<sup>5</sup>

Rem Koolhaas, on the other hand, provocatively wrote: “RULE: Astonish me!”<sup>6</sup> Yet his ironic statement can hardly be taken as a new attitude. The anarchist stance about architecture has had several epitomes. In the Sixties, for example, Reyner Banham and Cedric Price, together with a group of followers, wrote a *Non-plan* document in which they provocatively refused planning and all sort of related regulations.<sup>7</sup> The Situationists notoriously went well beyond a refusal and much before them Piranesi, to mention another



Max Bill

5. “For Max Bill the enemy to beat was arbitrariness, caprice, and the unfounded. This brings to an endless search for rules that will make restrictions to the freedom of action of the artist.” See Carles Martí and Joan Llecha, “Max Bill a través de cinco conceptos.” *DPA. Documents de projectes d'Arquitectura*, 17, 2001: 52-55, my translation.

6. OMA/Rem Koolhaas and Bruce Mau, *S, M, L, XL*, cit., p.1112.

7. Reyner Banham, Paul Barker, Peter Hall and Cedric Price, “Non-Plan: An Experiment in Freedom.” *New Society*, March 20, 1969.

example, openly praised freedom and eccentricity in the name of the notion of *capriccio*.

Furthermore, out of avant-garde positions it is known how this refusal can be traced back also in popular mass culture. Indeed many people believe that the very idea that architecture should be ruled or regulated – i.e. “made according to rules” - is awkward, if not altogether inconceivable. It contrasts with the understanding of architecture as an artistic discipline, to which by definition, no rule should be applied in order to guarantee the free expression and creativity of the author. For many people, actually, it is exactly this total freedom that should be encouraged to better “create”. The architect as artist or creator is an easy-to-accept and fascinating model. The Archistar system of contemporary architecture is solidly grounded in this belief. This, indeed, is one of the cornerstones of post-modern culture, within which authorship has consistently become an obsession. Vittorio Gregotti is one of those architects and theorists who has stressed this issue more insistently, underlining how this indiscriminate exaltation of creativity is actually functional to the interests of globalised financial market. Not that he refuses creativity altogether: in his view, instead, creativity is rather a wise and unavoidable rearrangement of existing conditions in the name of *ex nihilo nihil*.<sup>8</sup>

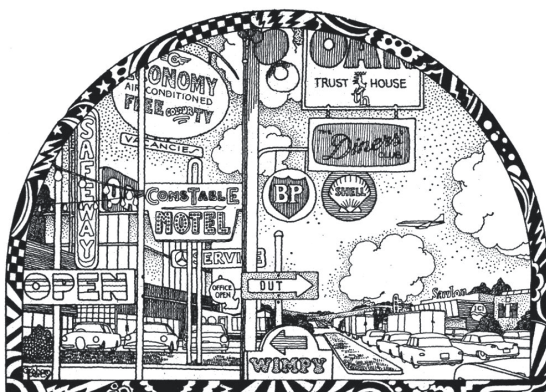
8. Vittorio Gregotti, *Il sublime al tempo del contemporaneo* (Turin: Einaudi, 2013), pp. 71-79.

Nevertheless the assumption is widely accepted that, across different countries, architecture is subject to building laws, zoning codes, planning regulations but also building instructions that affect form, volume,

distribution and appearance: nothing other than rules. Therefore, as we can see, the current condition of rules in architecture is rather controversial.

I believe that in order to reflect upon this theme it is useful to focus not on building regulations as a whole but on the essential component of them: the rule. It is the rule that, at least at a logical level, precedes the code. It is disputable whether we can still admit rules for architecture, if they are logically out of the project and if there is some overlapping area between the two realms.

Using the term “rule” about architecture, we cannot help thinking about Vignola, architect and author in the 16th century of the rather famous *Regola delli cinque ordini d'architettura*. Generally considered a treatise, in my view, this text is more properly placeable within the realm of handbooks. This text, in fact, is rather empty of theoretical presuppositions. It has been widely used, and several times reprinted, over a lengthy period. The *Vignole de poche*, as it was called



Reyner Banham,  
*Non-plan Manifesto*, 1969

in France, is behind the making of very many buildings as we know from official documents, and probably many more.

Yet it is only the best known of several similar texts. This remarkable production makes clear that, in that age, the “rule” or the “rules” were an essential element of architectural design. As is well known, throughout the classical age – therefore both much before and much later than Vignola – architecture was expected to mirror “in stone” the numerical harmonies of the macrocosm according to the “orders”: rules were an unquestionable consequence.

Rules were not mere practical tools: they rather guaranteed the actual physical embodiment of a “rightness of architecture” that was sanctioned at an aulic level by the theory of the orders. Architecture, by means of rules, was the physical metaphor of a supernatural divine order, according to Pythagorean-Platonic tradition. Those proportions which, from universal harmony moved into the actual building were absolute beliefs. Quatremère de Quincy made it clear how the system was made, first in a strict hierarchy of principles, and later in consistent rules.

At that time, not by chance, “regular” was synonymous of “proportioned.”<sup>9</sup> This is quite clear, for example, in the writings of a theorist like Félibien,<sup>10</sup> for whom a building was irregular if not designed according to the orders of architecture.

Therefore the observation of rules belonged to a very high cultural realm, a realm that extended beyond the restricted limits of the “making of architecture.” Vis-

9. See Werner Szambien, *Symétrie, Goût, Caractère* (Paris: Picard, 1986), p. 79. See the entire subchapter “Régularité.”

10. Jean François Félibien, *De Principes de l'architecture* (Paris: Colnard, 1676).

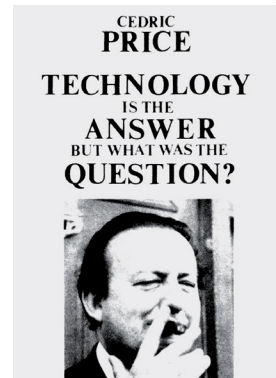
ibly, building rules had a very different situation from the contemporary one. As was explained by Françoise Choay in *La règle et le modèle*,<sup>11</sup> together with ideal models, rules constituted one of the cornerstones of the design development of architecture.

Disputes over arbitrariness, paradoxically, existed in an area of architectural knowledge, which, on the contrary, has always been considered the fortress of objectivity, i.e. technical knowledge. In that realm, in the absence of a transcendental dimension, experimentalism made rules which were only apparently unquestionable. In case of technical advancement, the rule could be betrayed with no reluctance. It is easy to understand how the dominion of what was “positive” and what was “arbitrary” for architectural design was the opposite of our times.

Furthermore in that epoch more general rules such as legal, administrative or city planning – the body of contemporary building regulations or zoning codes – did not exist at all.

They were, at that time, absolutely inconceivable, totally overshadowed and dwarfed by the overwhelming authority of the orders. All this – it is important to stress – happened not because of a certain disinterest towards the city but simply because it was unthinkable to rule architecture “out” of the orders and “before” the project. That the reason was this, and not a supposed disinterest towards the city, is demonstrated by the existence of remarkable urban projects. Just think of Leon Battista Alberti in Roma or Biagio Rossetti in Ferrara.

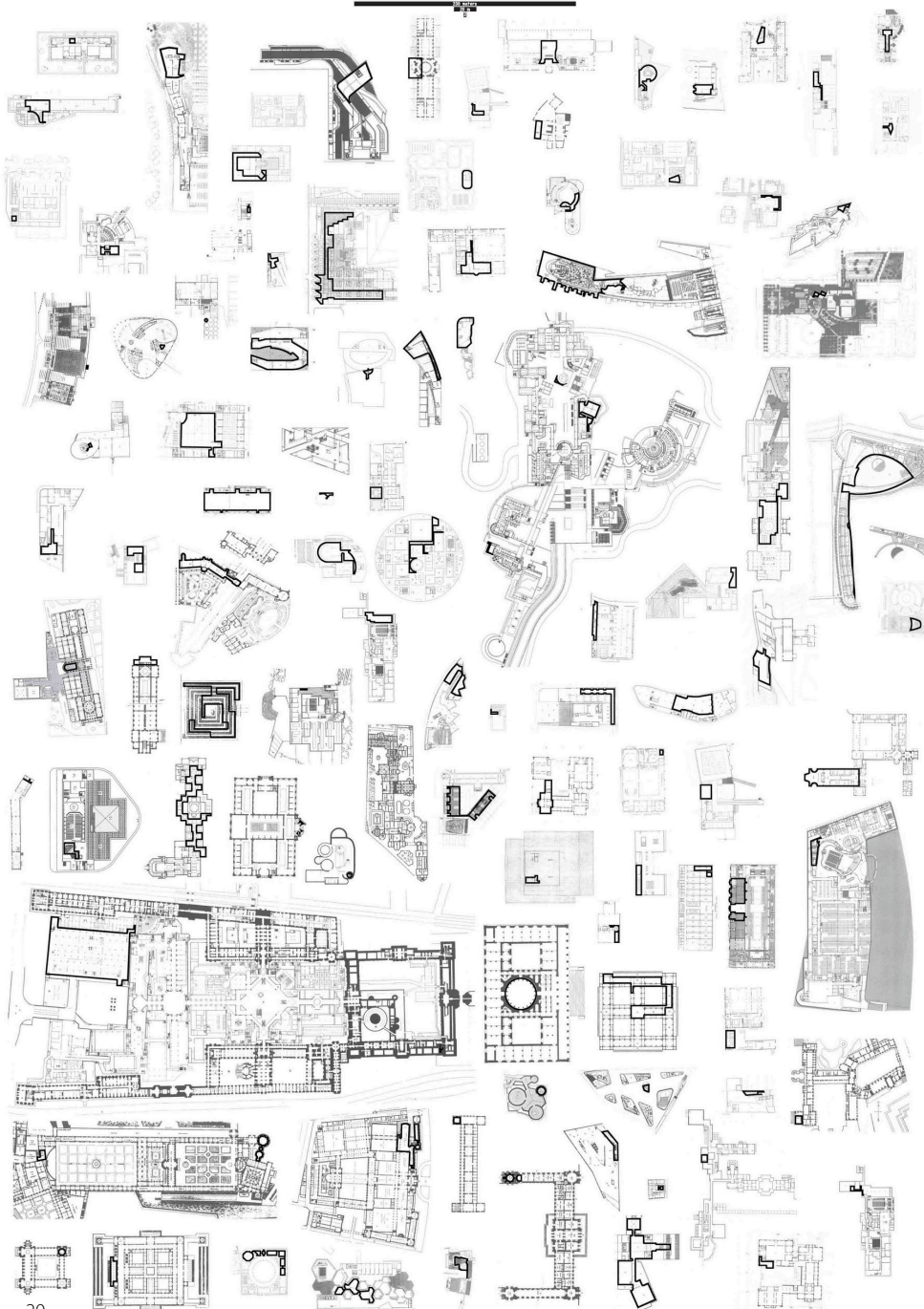
11. Françoise Choay, *La règle et le modèle* (Paris: Editions du Seuil, 1980).



Cedric Price,  
Cover Box of *The Pidgeon*  
Audio Visual Kit, 1979

# 百美重生

THE MUSEUM OF ALL MUSEUMS



Born and legitimised by the theory of the orders, rules of architecture suddenly lost their epistemological status when the theory of the orders went under revision after the influence of Cartesian philosophy. As is well-acknowledged, at the end of 17th century Cartesian thought entered theory of architecture through Claude Perrault's rediscussion of Vitruvian rules. In that age, actually, the Cartesian idea of "arbitrary beauty" made manifest the already present awareness of inconsistencies between Vitruvian rules and the physical remnants of old Greek and Roman buildings. Besides, at the same time, other diversities between different rules, as expressed by different theorists, came up. Roland Fréart de Chambray, in his *Parallèle*, demonstrated that treatises differed greatly from one to another. He confronted side-by-side drawings of the orders of different treatises dramatically showing the arbitrariness of rules.<sup>12</sup>

In this split between "positive" and "arbitrary", rules of architecture lost their moral status and began their way towards instrumentalisation. The *petite module*, suggested by Claude Perrault as a synthesis of all these diversities, is still a rule, but it is important to underline how it has a very different character. The *petite module* is a significant step in the process of the transformation of rules from being the guarantee of a superior order, beyond the realm of architecture, to becoming empirical tools aimed at the practical solving of problems.

This process is well-known and has been described by several scholars: what was started by Perrault was

12. Roland Fréart de Chambray,  
*Parallèle de l'architecture antique et  
de la moderne* (Paris: E. Martin, 1650).

< left: Federico Soriano & Dolores Palacios,  
Taipei Museum of Art Competition, 2000



more and more stressed until the total mechanisation suggested by Durand was reached. Guadet, one century later, will further affirm this attitude. Orders give their way to style, first, and styles later.

Architecture therefore, during that era, started to be “regulated” by a double group of norms based on “technical feasibility” and “grammar of style” – this is the nature of rules that modern handbooks inherit. Nineteenth century cities mark the triumph of this shift: order is replaced by style and rule becomes “observation of style.” The rise of the modern city brought about a further contamination: the system of rules of architecture included also legal and property issues. Rules therefore partly changed their very nature. An awkward mixture of legal, technical and style issues was the real subject matter of rules.

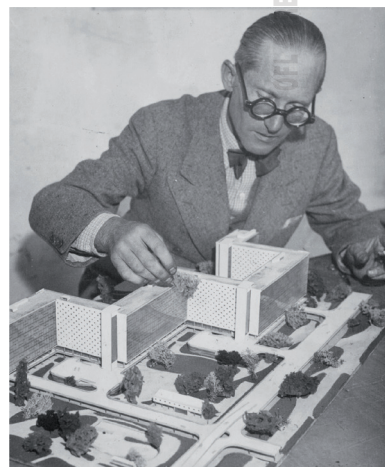
As we have already pointed out, building regulations – a systematic set of rules – were particularly strong and culturally relevant in the 19th century, when they were highly regarded. They are less regarded now, yet paradoxically, the amount of “rules” for architecture has increased substantially and continues to grow.

Yet I think that the issue is not only a practical problem for the making of the profession, as is often felt by professionals. The proliferation of rules is actually the outcome of a dangerous underlying idea: that in architecture design tools are more important than goals, to the point of even totally overshadowing them. This is the basis for the belief that rules are the path to rightness: architecture made according to all the rules is automatically good.

Again Vittorio Gregotti has clearly underlined this important distinction.<sup>13</sup> For him rules are only a “material for design” and they should guarantee nothing. The idea of standard, is to this respect, symptomatic. The sociologist Lawrence Busch has acutely analysed this phenomenon, which, of course, extends beyond architecture and turns out to be the triumph of instrumental ratio.<sup>14</sup>

This discomfort for an extreme rationality has permeated several views over history. For example it is well known how Le Corbusier had contaminated the idea of an absolute rationality of urban design claiming more complex contents for this discipline. Doing so, he reused, although ambiguously, Laugier’s thought, who much earlier had coined the over-quoted phrase “chaos, disorder and wild variety in the general layout, uniformity in detail.”<sup>15</sup> The sentence that the Swiss master borrows from the French Abbé is a kind of antidote against the perils of a rationality pushed to its extremes.

The point made by Laugier, in fact, deals with the decline of the idea of regularity in city development. As a consequence, it also deals with the decline of the idea of repeatability of elements which are at the basis of building regulations. So he writes in his *Essai*: “Above all, let us avoid excess of regularity and symmetry,” “As for building facades regularity is needed but also a lot of variety.”<sup>16</sup> Not only did Laugier introduce to urban planning the natural dimension and the aesthetics of Picturesque that had developed within painting, but ultimately, he picked up on the weak aspect of any



Le Corbusier with a model of the *Ville Radieuse*

13. Gregotti, *Il sublime al tempo del contemporaneo*, cit., pp. 12-15.

14. Lawrence Busch, *Standards. Recipes for reality* (Cambridge, Mass.: MIT Press, 2011).

15. Marc-Antoine Laugier, *Observations sur l'architecture* (Paris: A La Haye, 1765), pp. 312-33 and Le Corbusier, *Urbanisme* (Paris: Crès, 1925); English translation as *The City of tomorrow and its planning* (London: The Architectural Press, 1947).

16. Marc-Antoine Laugier, *Essai sur l'Architecture* (Paris: Duchesne, 1753), English translation as *An Essay on Architecture* by Wolfgang and Anni Herrmann, (Los Angeles: Hennessey and Ingalls, 1977) pp. 223-224.

abstract regulation. Indeed if the city has to mirror the *varietas* of nature, this has to happen not for a hedonistic search for heresy, but for a correct awareness of the value of accidentality.

Laugier's "city as forest," later copied by Milizia, is not the place of license and oddity. More importantly it makes the link with a notion which is very important nowadays, the fragment. Laugier's city – regardless of it being a metaphor for the forest – is a fragmentary city where the circumstantial conditions play their dialectical role against regulations. As Manfredo Tafuri has noted, Laugier's attitude is ultimately the affirmation of urban fragmentism: the city is therefore accepted in its fragmentary composition.<sup>17</sup> Better than anyone else, Le Corbusier grasps this richness, when he enlists the principles of his *Ville Radieuse*. In Laugier's and Le Corbusier's ideas, then, we can trace back this important connection. Principles of contextualism and fragmentism – notoriously in the core of Colin Rowe's attitude – are originated as offsprings of the dialectic rule/abuse. This might lead us to thinking that rules, rather than being totally refused, as in Koolhaas' polemic attitude, can be taken in a more flexible way as a sort of "collage of rules" – maybe appropriate to the "collage city" which they address.<sup>18</sup>

17. Manfredo Tafuri, *Progetto e utopia. Architettura e sviluppo capitalistico* (Bari: Laterza, 1973); Engl. translation as *Architecture and Utopia. Design and Capitalistic Development* (Cambridge, Mass.: MIT Press, 1976).

18. Colin Rowe and Fred Koetter, *Collage city* (Cambridge, Mass.: MIT Press, 1978). See also *Daidalos*, 16 (1985) on *Transfigurations of the Fragment: Collage City*, and especially Werner Oechslin, "Working with Fragments – the Limitations of Collage.": 16-30 and Raoul Bunshoten, "Collage City. A Masquerade of Fragmented Utopia.": 31-42.

## 2 | The “ambiguity” of theory

### Theory and doctrine

Jean Nicolas Louis Durand's *Précis des leçons d'architecture* and Jean Baptiste Rondelet's *Traite Theorique et Pratique de l'art de batir* are two of the most influential architectural books ever written. Durand and Rondelet taught during the 19th century at the *École Polytechnique* in Paris, an institution founded by the military engineer and geometer Gaspard Monge, who complemented their teaching through his “regularized” *Geometrie Descriptive*. Durand - who advocated Monge no less than Boullée as his master - had not the slightest interest in construction so his doctrine was perfectly matched by Rondelet's. The three men shared a deep concern for objectivity in design and for achieving public utility through architecture. Durand's simplified geometrical compositional norms cleared away any mythological remnant in architecture including the odd, for him, Vitruvian account on the origin of architecture as well as the theories of imitation like the one rather successfully held by the Abbé Laugier some fifty years before.<sup>19</sup> Durand's theory, centered on the *marche a suivre*, dominated architectural teaching and practice for a century. As late as 1902 we

19. For Durand's criticism of Laugier see Joseph Rykwert, *On Adam's House in Paradise* (New York: MOMA, 1972), pp. 43-44.

20. On Durand see Werner Szambien, *Jean-Nicolas-Louis Durand, 1760-1834: de l'imitation à la norme* (Paris: Picard, 1984) and Sergio Villari, *Durand. Arte e Scienza dell'Architettura* (Rome: Officina, 1987).

21. Jullien Guadet, *Éléments et théorie de l'architecture* (Paris: Librairie de la Construction Moderne, 1902).

22. Several texts outline this linkage. One of the first and more speculative is the chapter dedicated to this topic by Reyner Banham in *Theory and Design in the First Machine Age* (London: Architectural Press, 1960).

23. See Joseph Rykwert, *The First Moderns* (Cambridge, Mass.: MIT Press, 1980); Alberto Pérez-Gómez, *Architecture and the Crisis of Modern Science* (Cambridge, Mass.: MIT Press, 1983); Dalibor Vesely, *Architecture in the age of divided representation: the question of creativity in the shadow of production* (Cambridge, Mass.: MIT Press, 2004).

24. Robin Middleton and David Watkin, *Architettura Moderna* (Milan: Electa, 1977).

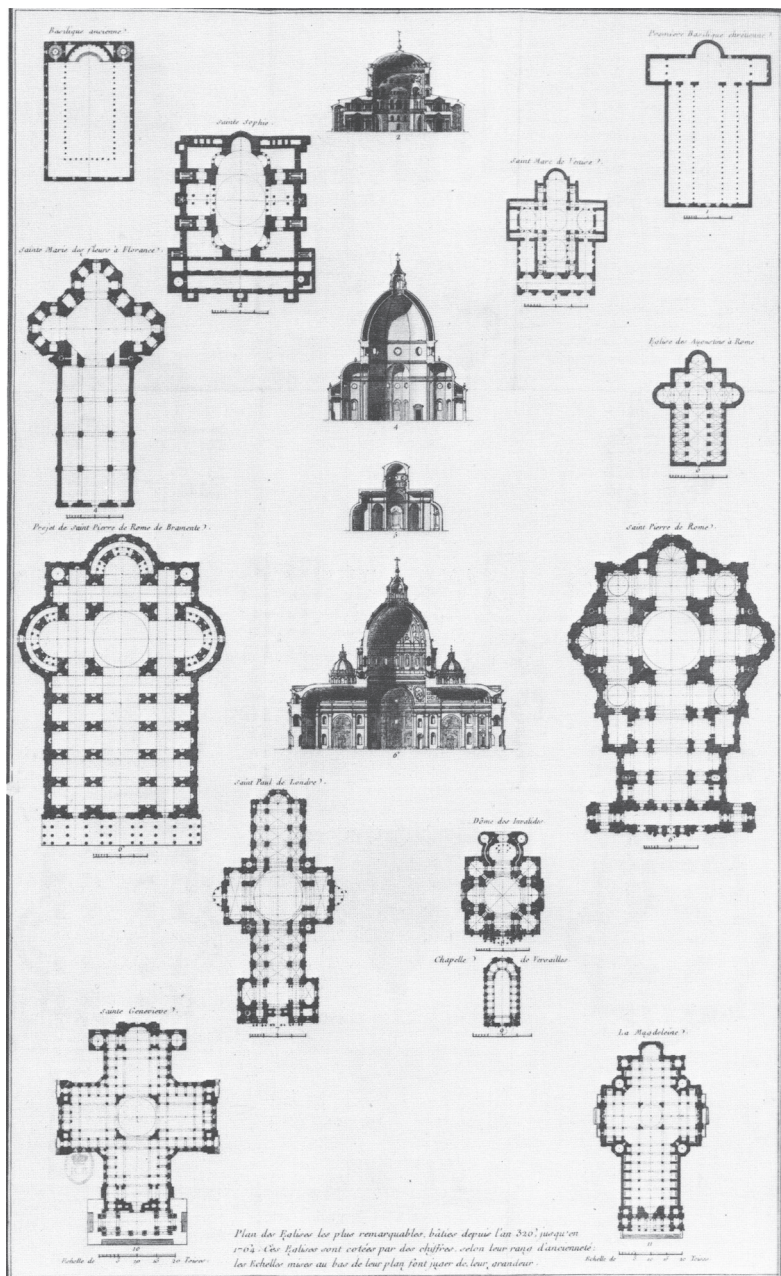
25. Durand's comparative system had its precedents in similar attempts made by David Leroy and by Soufflot's pupil, Dumont. Particular attention to this topic has been given by Robin Middleton and Werner Szambien. See Middleton and Watkin, *Architettura Moderna*, cit., and the paragraph "Leroy et la notion d'histoire comparative de l'architecture" in Szambien, *Jean-Nicolas-Louis Durand, 1760-1834: de l'imitation à la norme*, cit.: pp. 29-32.

can detect it almost unchanged - as *methode a suivre* - in Jullien Guadet's *Éléments et Théorie de l'architecture*,<sup>20</sup> another enormously influential text.

Guadet, like Durand, had clear ideas about the role of the architect: "The architect today is, or should be, a most manifold man, a man of science in all matters touching construction and its application, a man of science also in his profound knowledge of all the heritage of history."<sup>21</sup> Apart from a little different attitude towards the past, Guadet merely reiterates Durand's formula of "architecture as science."

Attempts to perpetuate the Durand/Guadet tradition have continued well into the middle of this century.<sup>22</sup> Durand's nefarious influence on modern architecture hardly needs to be stressed. It has been repeatedly recalled by Rykwert, Frampton, Pérez-Gómez, Szambien, Vesely among others.<sup>23</sup> I have merely to quote from Robin Middleton: "Rondelet and Durand together reduced architecture to two of its component parts: structure and formal geometry."<sup>24</sup> Durand's search for universals lead him to compile his equally famous *Recueil et parallèle des edifices de tout genre, anciens et modernes, ... dessinee sur une meme echelle*, a comparative representation, as the very title says, of buildings from different ages all drawn to the same scale.<sup>25</sup> His classificatory leaning had already come out in the *Rudimenta Operis Magni et Disciplinae*, a work which portrayed a less regularized architecture, an architecture less abstract and more circumstantial, interestingly represented in a vein echoing Piranesi and Boullée, quite different from the cool graph-paper lay-

> right: Julien-David Le Roy,  
Remarkable churches drawn at the same scale



26. On the *Rudimenta* see Werner Szambien, "Aux Origines de l'enseignement de Durand: le cent soixante-huit croquis de *Rudimenta Operis Magni et Disciplinae*." *Études de la Revue du Louvre*, n. 1, 1980 and Szambien, Jean-Nicolas-Louis *Durand, 1760-1834: de l'imitation à la norme*, cit.: pp. 35-37.

27. "Despite Durand's later scorn for the obvious impracticality of a model hut without walls, his own diagrammatic design method owed much to his combinative system." Anthony Vidler, *The Writing of the Walls* (New York: Princeton Architectural Press, 1987), pp. 19-20.

28. Charles Batteux, *Les Beaux-arts réduits à un même principe* (Paris: Durand, 1746).

outs to which we have been accustomed looking at his work.<sup>26</sup> Durand must have dismissed the *Rudimenta* as a youthful mistake - so the 168 comparative sketches still lie unpublished in the Rouen Musée de Beaux Artes. Durand and Guadet's doctrinaire approach was grounded on the strong belief that universal truth and unchallengeable principles did exist for architecture. Theirs can be defined works of theory, in so far as we assume, after the dictionary, the following meaning of the term "theory:" "a systematic statement of rules or principles to be followed." All the more so, according to this definition, we can take as "theory" also the rigidly abstract proposal of Laugier, which we have already singled out as the very target of Durand's scorn. In fact, in spite of Durand's rejection, Laugier and Durand share a common interest in establishing absolute rules for architecture.<sup>27</sup> But Laugier is even more radical. What for Durand might have been "principles" for Laugier became "the principle." He indeed tried to bring architecture to an unique principle like what the Abbé Batteux had done for the other Fine Arts.<sup>28</sup> This kind of reduction constituted an immediate procedure for Laugier as for him principles were identified with the origins. Similarly, then, his primitive hut not only was an original artifact but also a "model."

### *Ratiocinatio*

Things worked rather differently for Vitruvius, who was not a *philosophe* like Laugier, but an architect and a mechanical engineer. To him we owe the conception



of the twofold nature of architecture - theoretical and practical. Writing almost two millennia earlier than Durand, Vitruvius blamed one of his authorities, the architect Pytheos, for his neglect of the perils of an approach to architecture either merely practical or merely theoretical. So writes Vitruvius: "Wherefore the mere practical architect is not able to assign sufficient reasons for the forms he adopts; and the theoretic architect also fails, grasping the shadow instead of the substance. He who is theoretic as well as practical, is therefore doubly armed; able not only to prove the propriety of his design, but equally so to carry it into execution."<sup>29</sup> Vitruvius so, by means of one of his usual dyads,<sup>30</sup> teaches us that architecture is made of *fabrica* and *ratiocinatio* – "practice" and "theory". Often throughout his Ten Books, Vitruvius invokes *ratiocinatio* or *rationes*<sup>31</sup> as well as other similar terms such as *cogitatio* or *praescriptio*: "conscripsi praescriptiones terminatas ... aperui omnes disciplinae rationes."<sup>32</sup> Vitruvius, in a rather confused manner, assumed that "architectural principles" valid for Greek or Hellenistic architecture could be transplanted, unchanged, in the realm of Augustan Rome. Similarly he thought that the relevant terminology too could be usefully transplanted. Despite his, yet confused, awareness of the issue of *decor*, for him language as well as architecture suffered no circumstantial constraint. The obscure and mutually overlapping meanings of his six categories of architecture are just a notorious example of his failure to adapt or invent ingeniously a new language for architecture.<sup>33</sup> My use of the word "ingeniously" is here

29. Vitruvius Pollio (Marcus), *De Architectura Libri X*; I, 1, 2; Latin text and English translation by Frank Granger as *Vitruvius on architecture*, (New York: G. P. Putnam's sons, 1931).

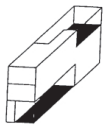
30. On Vitruvius' dyads and triads see Silvio Ferri, relevant notes in Italian translation of Vitruvius Pollio (Marcus), *De Architectura Libri X*, (Rome: Palombi, 1960); and Gabriele Morolli, "Binomi e triadi," in Gabriele Morolli, ed., *L'architettura di Vitruvio nella versione di Carlo Amati* (Firenze: Alinea, 1988).

31. Vitruvius, *De Architectura*, cit., I, I, 1: "Ratiocinatio autem est, quae res fabricatas sollertia ac rationis proportionem demonstrare atque explicare potest."

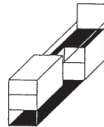
32. Vitruvius, *De Architectura*, cit., Prologue, 3.

33. Ferri explains the overlapping - especially that between *symmetria* and *eurhythmia* - as the result of three different aesthetics views. See Silvio Ferri, notes in Italian translation of Vitruvius, cit.

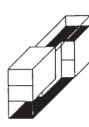




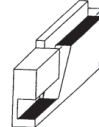
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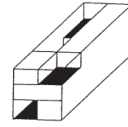
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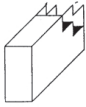
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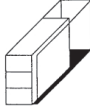
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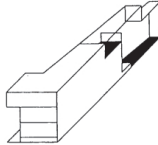
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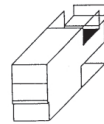
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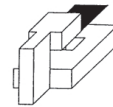
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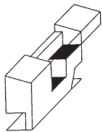
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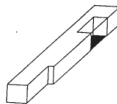
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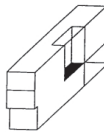
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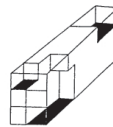
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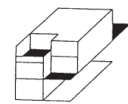
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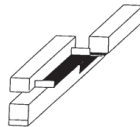
Willem Jan Neutelings



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Xaveer de Geyter



Willem Jan Neutelings



O.M.A.

Proposals for Borneo Sporenburg Competition,  
Amsterdam, 1990

in deliberate reference to the *ingenium*<sup>34</sup> of rhetorics - I wish so to introduce a discussion about the rhetorical dimension of architectural writings.

A rather different concern for circumstantialities characterizes the most important Renaissance treatise on architecture, the much praised *De Re Aedificatoria* by the humanist Leon Battista Alberti. Throughout his book Alberti is as much concerned with the enunciation of certainties as he is with casting doubts and reporting different opinions. It could not be different since the main difference between the two texts lays in their focuses. As Giancarlo Motta has noted, for Vitruvius the focus is “architecture,” whereas for Alberti the focus is the “architect.”<sup>35</sup> Alberti is well aware of

34. *Ingenio* and “wit” are Seventeenth century developments of the inventio of classical rhetorics. One of the most famous advocates of *ingenio* was Baltasar Gracián with his *Agudeza y arte del ingenio* (Huesca: Juan Nogués, 1648).

35. Giancarlo Motta, Antonia Pizzigoni, *L'orologio di Vitruvio* (Milano: Unicopli, 1998), p. 26.

the changeability of architecture in relation to spatial and temporal conditions. It is from this belief that his mockery of Vitruvius is also originated. “Vitruvius had no language” - this basically Alberti deplores - whereas a language of a certain time and of a certain place has to be used. Every interpretation of architecture must betray, as in Gadamer’s words, “limited interests, prejudices and contemporary values.”<sup>36</sup> This seems to be an important part of his message.

This approach is consistent with his architecture, which, similarly, was responsive to its context. Attention to specific situations and references to local monuments in Florence, Rimini, Mantua can be noticed in Alberti’s buildings. We might also add that, for example, his concern for the *templum etruscum* type in his project for the church of S. Andrea, being a link to Alberti’s own origin, belongs more to the realm of personal values than to that of universal principles.<sup>37</sup>

Under the light of these considerations, it becomes hard, in the case of a work like *De Re Aedificatoria*, to use the term “theory” assuming its ordinary meaning of “system of principles.” This occurs in spite of the fact that this meaning, instead, can usefully be adopted in other domains like that of science. Therefore I suggest that if we want to rescue some kind of advantage in the use of the word “theory” as applied to architectural writings, we must recur to the obsolete meaning of “careful vision,” which, incidentally, adheres more closely to one etymology. According to this latter, “theory” is a compound of *thea* (to see) and *hora* (care). The word “vision,” indeed, implies its being personal,

36. Hans-Georg Gadamer, *Philosophical Hermeneutics* (Berkeley, Ca.: University of California Press, 1976).

37. See Joseph Rykwert and Robert Tavernor, “S. Andrea in Mantua,” *Architects’ Journal*, 183, n. 21 (May 1986): 36-57. See also Giorgio Grassi, *Leon Battista Alberti e l’architettura romana* (Milan: Franco Angeli, 2007).

and therefore not universal and bears no urge to express positive regulations and principles.

As we have seen, principles are the essential component of theory. But, in the realm of architecture, the very understanding of principles has assumed a peculiar meaning. It is therefore useful for the purpose of this paper, to dwell somewhat upon this topic.

The word “principle” in architecture has been often and commonly associated with the Renaissance. As is well known, this has partly occurred because of the success of Wittkower’s book. The title *Architectural Principles in the Age of Humanism* was, indeed, used in 1949 to gather studies on Italian Renaissance architecture, some of which had already been published in magazines. If that title had not been used probably our understanding of the word “principle” would have been different. As we know Wittkower, in his masterly study, is thoroughly concerned, among other topics, with the relationship between music and architecture, with the idea of proportion and with the conception of ideal models. But in his investigation he shows a marked tendency to single out universal principles. This strive for abstraction, for example, could not cope with Palladio’s more flexible attitude towards universal principles, an attitude, the latter, which betrays the influence of Alvise Cornaro’s empiricism. This caused, for example, Wittkower’s failure to categorize Palladio’s musical ratios, in Part Fourth of the book. It also caused the partly misleading effect of his abstract schemes for Palladio’s villas.

The extreme success of the book has brought about a

distinctive image of the Renaissance. It also, especially in the English-speaking world, has caused the misconception that the principles singled out by Wittkower were much more universal than he actually intended. This happened to the point that a certain confidence existed as proportional ratios could actually be used in modern architecture.<sup>38</sup> In fact only one year separates the publication of *Architectural Principles* from that of Le Corbusier's *Modulor*, as Werner Oechslin has pointed out.<sup>39</sup>

But what interests me here is that a revision of Wittkower's attitude has been provided just as far as a more adaptable conception of principles is concerned. Françoise Choay has, for example, pointed out that his bias for the mathematical-proportional side in the issue of anthropomorphism has made him ignore the role played by Plato's physiologism during the Renaissance.<sup>40</sup> Also, Manfredo Tafuri has pointed out how Wittkower's pursuit for rationalized principles forced him to ignore the experimental side of architectural humanism as it appears for instance in the *Novella del Grasso Legnaiuolo*, a true story in the life of Brunelleschi.<sup>41</sup> Tafuri has also revised Wittkower's parallelism between Neoplatonism and Renaissance architecture by dwarfing the role played by Francesco Giorgi's *Memorandum* for the facade of San Francesco della Vigna.<sup>42</sup> Together with a renewed concept of the principles Tafuri has also called for a deeper consideration of the concept of *sprezzatura* in Baldassar Castiglione, of Lorenzo Valla's conception of contingency in language, these two issues in connection with a different view

38. See Henry Millon, "Rudolph Wittkower's *Architectural Principles in The Age of Humanism*: its Influence on the Development and Interpretation of Modern Architecture." *Journal of the Society of Architectural Historians*, XXXII, (1972): 83 ff.

39. Werner Oechslin, "Music and Harmony: Universals of Architecture. Paths of Approach." *Daidalos*, 17 (1985): 59-73.

40. Choay, *La règle et le modèle*, cit. See also Theodore James Tracy, *Physiological Theory and the Doctrine of the Mean in Plato and Aristotle* (Chicago: Loyola University Press, 1969).

41. See Manfredo Tafuri, *Ricerca del Rinascimento* (Turin: Einaudi, 1992).

42. Manfredo Tafuri and Antonio Foscari demonstrate how the *Memorandum* was written actually after the decision for the facade was taken and not before. See Antonio Foscari and Manfredo Tafuri, *L'armonia e i conflitti* (Turin: Einaudi, 1984).

Joseph-François Lafitau,  
Daily life of the Amerinds



43. See Chapter 2 in Tafuri, *Ricerca del Rinascimento*, cit.

44. See Marco Frascari, "Maidens 'Theory' and 'Practice' at the Sides of Lady Architecture" *Assemblage*, 7, October 1988: 15-27.

of Alberti's concern for local events in architecture.<sup>43</sup> Tafuri's view is important because envisages Renaissance theories as changeable doctrines. A similar urge for a different understanding of the principles in a broader context has been advocated in other studies.<sup>44</sup> To consider architectural principles flexible and adaptable rather than universal can help to solve the paradox of the impossibility of an architectural theory. This accounts for the non universality of most of the principles of Renaissance architecture. We have seen how, whereas Durand and Laugier believe in a universal, timeless truth in architectural matters, the case of Alberti accounts for a restricted realm of truth in architecture, a realm to which the rhetorical technique in architectural writings is functional. But preeminently it accounts for the impossibility of absolute beliefs for such a discipline.

### 3 | Harmony and *Scientia Universalis*

According to the classical theory of architecture, handed out to us by Vitruvius, numbers and numerical proportions regulated architecture in a twofold manner: to determine the general proportions of the building and for the modular construction of architectural orders, a procedure named by Vitruvius *commodulatio*. This theory was grounded on the idea that these numerical relationships embodied, and therefore guaranteed, universal harmony.<sup>45</sup>

The concept of proportion, as it was enunciated by Plato in the *Timaeus*, was the cornerstone of the theory. And indeed the *Timaeus* as well as Cicero's *The Dream of Scipio*, with their description of the "harmony of the spheres," can be considered the manifestoes of these beliefs. A second important notion for the whole theory was the analogy between the microcosm of the human body and the macrocosm of the universe. It was believed that the same numerical ratios regulated both the dimensions of the human body and the harmony of the cosmos. Therefore beauty in architecture could be achieved, anthropomorphically, by observing these rules.<sup>46</sup>

This theory assumed also the analogy between vi-

45. The main reference is, of course, Wittkower, *Architectural Principles*, cit., but see also George Hersey, *Pythagorean Palaces* (New York: Cornell University Press, 1976).

46. See Erwin Panofsky, "The History and the Theory of Human Proportions as a Reflection of the History of the Styles," in *Meaning in the Visual Arts* (Garden City, N.Y.: Doubleday Anchor Books, 1955), pp. 55-107. It is clear that architectural anthropomorphism went much beyond this simple parallelism.

sual and musical proportions: according to the tradition, Pythagoras, by observing the vibrations of strings of different length found a correspondence between the lengths and the pitches of the strings. He derived from it numerical series that were valid for both harmonies. Almost untouched, these Pythagorean-Platonic ideas were incorporated by Vitruvius within architectural theory.<sup>47</sup> In rediscovering Vitruvius and referring back to the authority of the *antiqua architectura*, Renaissance architects revived these numerological understanding. During the 16th century in Venice these ideas were supported by one of the leading Neoplatonic philosophers, Francesco Giorgi, whose *De Harmonia mundi totius* published in 1525 can be considered, together with the works of Marsilio Ficino, the quintessence of Renaissance Pythagorean mysticism.<sup>48</sup>

Wittkower, who notoriously has investigated the history of Neoplatonic thinking within architectural design, has underlined the importance of the *memorandum* written in 1535 by Giorgi about the proportions of the church of San Francesco della Vigna in Venice, under construction at that time according to the design of Jacopo Sansovino.<sup>49</sup> In it, Giorgi applied his theory, which held, among other things, “three” as the perfect number.

Jacopo Sansovino was one of the refugees of the Sack of Rome. These artists spread the classicist culture of Rome in the North of Italy. The Veneto became in that period an important center of humanistic culture, a center in which the roles of the polymath

47. Underlining Vitruvius’ uncritical attitude, Tafuri has spoken of “banal parallelism with the theory of proportions taken from Pythagorean harmonies”. See Manfredo Tafuri, *L’architettura del Manierismo nel ‘500 europeo* (Rome: Officina, 1966), my translation.

48. Marsilio Ficino, *Opera Omnia* (Basil: Henricpetri, 1576) which includes also a commentary on the Timaeus. The bibliography on Neoplatonism is limitless, nevertheless see André Chastel, *Marsile Ficin et l’art* (Paris: Droz, 1954).

49. Published for the first time by Gianantonio Moschini, *Guida per la Città di Venezia* (Venice: Tip. di Alvisopoli, 1815); Engl. translation in Wittkower, *Architectural Principles*..., cit.; pp. 155-157. For a new interpretation of the role of this memorandum see Tafuri and Foscari, *L’armonia e i conflitti*, cit.

Daniele Barbaro and of the architect Andrea Palladio became the leading ones.

In Barbaro's *Commentarii* on Vitruvius, as well as in Palladio's own *I Quattro Libri dell'architettura*, geometry was still intended in the Vitruvian sense - a subsidiary art, essential for the making of architecture, but not beyond the realm of the manifold disciplines which constitute the encyclopedic knowledge of the architect.

For architects of this epoch, an architecture, designed mainly by means of numbers, was of course indisputable. As we have noted, they were directly exposed to Neoplatonic philosophy but they were also in contact with musicologists like Gioseffo Zarlino,<sup>50</sup> who supported deeply numerological conceptions. This kind of contacts could do nothing but strengthen the numerological leaning of the architects.<sup>51</sup>

A fundamental element of the drawings in Palladio's *Quattro libri* are the numbers which indicate not the actual dimension but the modular ratio for most elements of the building. Palladio's architecture was therefore conceived as a mathematical operation on the modules. Its dimensions relied more on numbers than on lines. As George Hersey put it, was possible "to express architecture by means of an algorithm."<sup>52</sup> Barbaro played an important part in widening the humanist horizon. In Venice he was the supporter of a scientific *renovatio*, which brought him in close contact with many scientists. His Vitruvius was presented not only as a text on architecture but also as a *summa* of technical and scientific knowledge. In it,

50. Zarlino was the leading musical theorist of the time. He wrote the *Dimostrazioni harmoniche* in 1571 and the *Sopplimenti musicali* in 1588. Wittkower in *Architectural Principles*, cit., hints, providing with no evidence, at the possible contact between architects and musicians. Tafuri has proved the connection between Barbaro, Palladio and Zarlino within the Accademia Veneziana. See *Venezia e il Rinascimento. Religione, scienza e architettura* (Turin: Einaudi, 1985), Engl. Trans. *Venice and the Renaissance* (Cambridge, Mass.: MIT Press, 1989) and Tafuri and Foscari, *L'armonia e i conflitti*, cit.

51. Zarlino in his *Sopplimenti musicali* (Venice: Francesco dei Franceschi Senese, 1588) quotes Barbaro's Vitruvius often, and with high respect. See Wittkower, *Architectural Principles*, cit., p. 137, n.1.

52. George Hersey, *Pythagorean Palaces*, cit., p. 24. And so he partly anticipated Mario Carpo's intuition. For this see later.



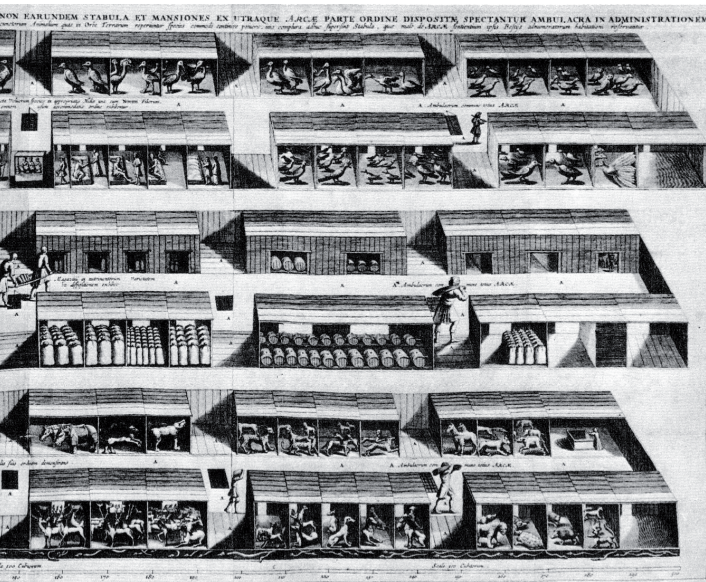
On this aspect of Daniele Barbaro see Paolo Rossi, *I filosofi e le macchine* (Milan: Feltrinelli, 1962); Engl. translation as *Philosophy, Technology and the Arts in the Early Modern Era* (New York: Harper & Row, 1970).

55. Daniele Barbaro, *Commentarii*, cit., p. 57.

of the Euclidean literature,<sup>56</sup> who, despite his contribution to the revival of Euclidean geometry, still in his *Commentarium in Platonis...* held the belief of the harmony linking macrocosm and microcosm. Both Barbaro and Francesco Barozzi were unable to abandon the supremacy of arithmetical/numerological conceptions, despite their involvement in the revival of Euclidean geometry, a realm in which the continuous quantities of geometry challenged that very supremacy.

The situation was not different for other architects belonging to the same generation: Vignola in Rome held the same belief, although disguised by the pragmatism of his *Regola delli Cinque Ordini*. And similarly, just to quote another example, Vincenzo Danti

56. Barozzi dedicated to Daniele Barbaro his edition of Proclus' commentary on Euclid, *Procli Diadochi Lycii Philosophi Platonici ac Mathematici probatissimi in primum Euclidis Elementorum Librum Commentariorum ... Libri III* (Padova, 1560). Barbaro wanted Barozzi to comment the manuscript of his Latin *Vitruvius*. See Tafuri, *Venice and Renaissance*, cit., p. 204, n. 157.



Athanasius Kircher, Noah's Ark

planned a treatise in which numerical ratios, and not geometry, regulated architecture.

Yet Geometry had its strongholds: ever since Vitruvius, the tracing of the *entasis* in the shaft of the columns and the tracing of the volute in the Ionic capital were accomplished geometrically.<sup>57</sup> But geometry's usual role was an instrumental one. Or it could also be used to validate numerical procedures as in the case of Sebastiano Serlio's portal described by Wittkower.<sup>58</sup>

A century later than Palladio's generation, we can confront a radically changed situation: geometry takes over and becomes the leading discipline in the buildings and in the theory of several architects among them Guarino Guarini and Christopher Wren. Guarini, a Theatine priest, was professor of mathematics and geometry. He wrote books on architecture, mensuration, fortification, astronomy, a commentary on Euclid's *The Elements* and an encyclopedic treatise on Philosophy, Physics and Theology, the *Placita Philosophica*. In his *Architettura Civile*, Guarini literally declares that architecture depends upon geometry.

Guarini's architecture's relationship with geometry can be summarized by these following main aspects: the development of complex geometric compositions for his buildings; a dismissal of strictly numerical-modular procedures, in favor of geometrical ones, both for the general dimensions of the building and for the *commodulatio*; the attempt of developing a theory of architecture according to a deductive sys-

57. Often scholars have considered the so-called geometric proportion as a geometric construction within Neoplatonic numerology. This has been misleading for, in fact, the geometric proportion is one of the main proportions ever since Marsilio Ficino and it is a purely arithmetical one with rather oblique geometric connections.

58. See Wittkower, *Architectural Principles*, cit., pp. 126-127. The drawing in Serlio's First Book describes a geometric tracing for a portal but, as Wittkower points out, dimensions are fixed first, numerically, and later they are validated geometrically.

tem; the use of geometric projections and conic sections in architecture. There are, of course, many other instances: the inclusion of the discipline of *Geodesia* in *Architettura Civile*, the coupling of the three orders of architecture with the three conics curves, the use of geometrical schemes developed for astronomy or other topics, within his buildings.

Quite clearly the definition “application of geometry to architecture,” which has been suitable for the 16th century architects, now turns out to be a limiting one. Indeed what we find with Guarini, far from being a mere relationship between the two disciplines of geometry and architecture, is an entire cultural system, ordered according to geometry. Geometry is therefore not only the overwhelmingly prevalent subject-matter of his treatises but it is a true system of knowledge. Geometry for Guarini is much more than a technical knowledge, it: “...docet intellectu disponere numeros quodam genere argumentandi, ut aliud inveniatur: haec disponere mensuras, et tali pacto ordinare ut ex una per discursum intellectivum caetera obtineatur...”<sup>59</sup>

It is therefore hardly surprising to find all his treatises ordered entirely *more geometrico*: according to an axiomatic-deductive structure which derive concepts one from another, starting from initial common notions. As Pérez-Gómez has written: “Geometry, for Guarini, was not only one science among others; it was the prototypical Universal Science, comprising all dimensions of human thought and action, capable of reaching the truth through intellectual argumenta-

59. Guarino Guarini, *Placita Philosophica* (Paris, 1666), p. 179.

60. Pérez-Gómez, *Architecture and the Crisis of Modern Science*, cit., p. 89. On this see also Marcello Fagiolo, "La Geosofia di Guarini," in *Guarino Guarini e l'internazionalità del barocco* (Turin: Accademia delle Scienze, 1970), pp. 180-201.

61. The best treatment of the topic is in the following studies: Paolo Rossi, *Clavis Universalis. Arti della memoria e logica combinatoria da Lullo a Leibnitz* (Milano- Napoli: Ricciardi, 1960); English translation as *Logic and the art of memory: the quest for a universal language* (Chicago: University of Chicago Press, 2000); Enrico De Angelis, *Il metodo geometrico nella filosofia del Seicento* (Pisa: Le Monnier, 1964) and Cesare Vasoli, *L'enciclopedismo del Seicento* (Napoli: Istituto Italiano Studi Filosofici, 1978). Nevertheless see also Crapulli and Dijksterhuis.

62. Judith Field, "Kepler's Rejection of numerology," in Brian Vickers, editor, *Occult Mentalities in the Renaissance* (Cambridge & New York: Cambridge University Press, 1984). See also Giuseppe Cambiano, "Figura e numero," in Mario Vegetti, editor, *Il sapere degli Antichi*, II volume of *Introduzione alle culture antiche* (Turin: Bollati Boringhieri, 1985), pp. 83-108.

63. Paul Rose has coined for it the term *Italian Renaissance of Mathematics*, from which the title of the omonymous book (Geneva: Droz, 1975).

tion based on precise relations and combinations."<sup>60</sup> Guarini can surely be ranked among those 17th century encyclopedists who, on the basis of a long-standing scholastic tradition and following the revival of Euclidean geometry believed to interpret the world according to a rigorous system leading unavoidably to the truth.<sup>61</sup> To this respect, it is quite significant that many of them were not mathematicians but philosophers and theologians. We might quote Ludovico Meyer, John Craig and, above all, of course Baruch Spinoza, author of the *Ethica more geometrico demonstrata*.

Guarini's architecture, as we said, introduced lines as generators of form and consequently the Pythagorean numbers and ratios lost their primacy within architectural design. His contribution therefore is part of a vast phenomenon which Wittkower has described as the "break-away from the laws of geometric proportion." This is not a merely architectural event since in music and astronomy we can trace a similar decline. It has been demonstrated how, for example, Kepler assumed similar attitudes rejecting the Pythagorean numerology.<sup>62</sup>

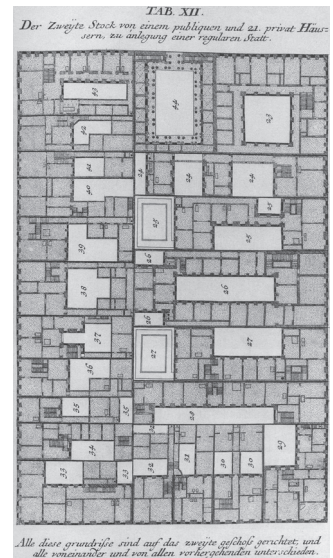
The reasons for such a cultural turn can be traced in the resurgence of geometry prompted at the end of 16th century by personages like Guidobaldo del Monte, Federico Commandino, Francesco Barozzi, Nicola Tartaglia as well as, later, the Galilean school in Padua.<sup>63</sup> Elsewhere, other scholars like Christopher Clavius, Giovanni Alfonso Borelli, Francesco Maurolico and Francois Milliet de Chales also con-

tributed to an endless array of commentaries on Euclid. It is quite interesting to find Guarini linked to these movements: in Messina, where he taught from 1660 and 1662 in the same university of Borelli and of the almost legendary Francesco Maurolico;<sup>64</sup> in Paris, later, he was again in a outstanding scientific center and it is probably there - or later in Turin - that Guarini established a link with the mathematician and leading Euclidean commentator Milliet de Chales, who is highly regarded in Guarini's writings both for scientific and architectural topics.

But the revival of geometry encompassed also speculations on indivisibles and continuous quantities, a realm in which the old epistemological opposition between numerology-arithmetic and geometry was again revived in the form of *quantitas continua* and *quantitas discreta*. Galileo's pupil Bonaventura Cavalieri, linked the topic to the notion of infinite space. Once again we find these topics among Guarini's main concerns: discrete and continues quantities are maybe the most important topics both in the *Euclides* and in the *Placita Philosophica*; Guarini's strive for infinity in his architecture hardly needs to be recalled. As an outcome of his encyclopedic culture and international experience Guarini's buildings turn out to be very complex. The eclecticism of the references comprehends Manneristic *ludi geometrici*, Gothic verticalism, Islamic forms, pagoda-like domes, intertwined and curve forms. Regardless of their stylistic aspects, all these shapes could hardly be determined only by means of modules and numbers.

64. The fame of Maurolico was so high that even Christopher Clavius paid the homage to the great scholar going to Messina to read in the University the 5th book of Euclid. See Umberto Bottazzani, "Antichi paradigmi e nuovi metodi geometrici," in Paolo Rossi, editor, *Storia della scienza moderna e contemporanea* (Turin: Utet, 1989) vol.

1, *Dalla rivoluzione scientifica all'età dei Lumi*, pp. 129-162.



Leonhard Christoph Sturm,  
"Regularized" courtyard urban houses



Besides, the complexity of Guarini's buildings and especially domes is due to the use of geometrical projections and conic sections, combined with stereotomy. In this respect Guarini's transposition of geometry into architecture reveals all its weight. Indeed Guarini made use of all the newly found geometrical innovations, and he was incredibly ready to transform them into architectural devices. Yet, despite Guarini's masterful architectural treatment of projections, I would be very careful to attribute to him the knowledge of the newly found Projective Geometry of Girard Desargues. This attribution has been firstly made by Wittkower, and very often uncritically repeated by others. In fact Guarini did not know the Projective Geometry of Desargues, never met Desargues who died before Guarini's arrival in Paris and never quotes Desargues in his writings.

It is quite clear that the big gap which separates 16th century architects' application of geometry and Guarini's omnicomprehensive geometric *Weltanschauung*, is a conceptual one. For Guarini geometry replaced nature as the ultimate reference of architecture - an abstract *Ordo Geometricus* substituted the *Ordo Naturalis*. Geometric reasoning within and without architecture was for him a goal in itself.<sup>65</sup>

The evolution, undergone by the notion of nature, is quite revealing of this change. Nature for Alberti was the utmost receptacle of perfection. It becomes for Barbaro an ambiguous concept: it has to be imitated but it can also be surpassed by human action.<sup>66</sup> In Guarini's *Architettura Civile*, nature is eloquently absent.

65. As Tafuri put it: "Nature therefore becomes for Guarini something to be subdued by mathematical abstractions..." See Manfredo Tafuri, "Retorica e sperimentalismo: Guarino Guarini e la tradizione manierista," in *Guarino Guarini e l'internazionalità del Barocco*, cit., pp. 667-704, my translation.

66. "The overcoming of nature is a common theme for Manneristic poetics." See Manfredo Tafuri, *L'architettura dell'Umanesimo*, p. 350, my translation.

## 4 | The Ciceronian architecture of *Decor*

The word “decoration” plays an ambiguous role within architectural thinking. Especially in modern times it has an unclear meaning, often with a derogative twist. Furthermore, especially in English and French languages, “decoration” is used changeably with “decor” adding more confusion. Both decor and decoration, indeed, derive from the Latin *decor*, a term, which, as we will see, has very diverse implications. It is then not something merely linked to the embellishment of buildings.

To fully understand *decor*’s essence it is necessary to consider its etymological root. In the most popular English translation of Vitruvius’ treatise the definition of *decor* runs as follows: “Decor demands the faultless ensemble of a work composed, in accordance with precedent, of approved details. It obeys convention, which in Greek is called *thematismos*, or custom or nature.”<sup>67</sup> In itself there is nothing noteworthy; what has rather caught my attention and has brought about my hilarity is the translator’s bare footnote: “This rule is generally observed in modern architecture.”<sup>68</sup> (*sic!*) The oversimplicity of such a statement is evident and it reminds us of the of-

67. “Decor autem est emendatus operis aspectus probatis rebus compositi cum auctoritate. Is perficitur statione, quod graece tematismo dicitur, seu consuetudine aut natura,” Vitruvius Pollio (Marcus), *De Architectura*, cit., p. 29.

68. Frank Granger, n.1, p. 29 in Vitruvius Pollio (Marcus), *De Architectura*, cit.

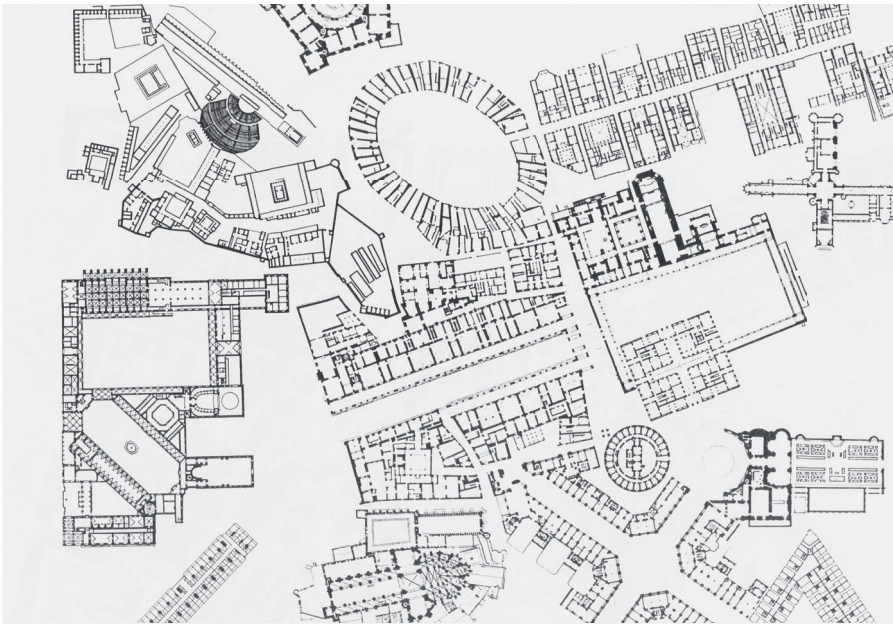


ten hidden presence of the notion of *decor* within architectural thinking. Contemporary architectural debate has also been permeated by a concern which often gravitated around this notion - without acknowledging it.

On the contrary Modern Movement ideology - and, more precisely, its misinterpretation made by its later followers - has brought up the idea that buildings have to stand alone, with no relationship to the context. Buildings were, therefore, conceived like fragments which, by their exclusiveness, had to give only clues of the “new order”<sup>69</sup> which modern architecture was going to establish. This implied a critique of the adjacent buildings. Hence the exclusiveness and often the abstraction of the new architecture. We

69. Stuart Cohen, “Physical Context/Cultural Context, Including It All.” *Oppositions*, 2, 1974, p. 2.

Hans Kollhoff, Minicity Collage, 1978



shall see later how abstraction is a crucial notion for the making of architectural thought.

As is well known, in the last thirty years, several reactions against this attitude have been produced by varied groups of people, both within and without of architectural discipline. Robert Venturi has strongly criticized the so-called “exclusivism,” opposing to it his notion of “inclusivism,” by which he means that architecture has to include as much as possible of the realities that surround it, both metaphorically and literally. Deformation vs. regularity, hybrid vs. pure form, accommodation vs. exclusion are some of the notions exalted by Venturi who somewhat overtly stated: “I am for messy vitality over obvious unity.”<sup>70</sup>

Italian theorists’ interest in the urban morphology has also contributed to this reaction, yet in a quite different way. Following the pioneering studies of Saverio Muratori, architects and scholars like Giulio Carlo Argan, Aldo Rossi and Carlo Aymonino have focused their attention in the richness of the interaction of typology and morphology in historic cities and have taken it as a basic principle of design. Colin Rowe’s contextualism is yet another well-known attempt to establish an architecture which seeks propriety and therefore takes in account external circumstances such as the site and adjacent buildings.

All these theories lead to the principle of a coexistence of the building within the “community” of the neighboring buildings. As a new member of this “society” the building will have to deal with it. A behavior will be required to it.

70. Robert Venturi, *Complexity and Contradiction in Architecture* (New York: Museum of Modern Art, 1966), p. 37.

The “contextual life of the building” implies some rules which will vary according to the function and purpose of the building but also according to the context. The analogy with Manners is direct: for a stroll in the windy countryside a windbreaker is appropriate, for dinner at the Palace we rather need a tuxedo, as in Bob Maxwell’s words.

Quite clearly, contextualism, to some extent, is also conformism. For architecture the problem of being *decorated* merges with the problem of being *decent* as well as with that of being *decorous*.<sup>71</sup> Decoration is not a path to an absolute beauty, but it crosses the field of “propriety to specific circumstances.”

What surrounds all these themes, whether we take them in terms of the *Galateo* ideology or in their architectural equivalent, is an idea of fundamental

71. See the Latin impersonal verb *deceat* and the Indoeuropean root *dek-*.

Edwin Lutyens, India Gate, New Delhi, 1931



importance for Western culture: the effectiveness of beauty is tied to its contextual behavior. It is a notion that from rhetoric has migrated to other fields, including architecture, and that has reached its perfect formulation with Cicero's notion of *decorum*. "Quid deceat et quid dedeceat," ("what is appropriate and what is not") was Cicero's main concern for rhetorics: circumstances dictated the speaker's style and behavior.<sup>72</sup>

I want to stress the centrality of the notion of *decor*, within architectural theory, dealing mainly with a particular variation of it, the notion of *bienséance*.

I will begin this analysis, reflecting on how this concept has been formulated by Marc Antoine Laugier, one of the most influential architectural theorists. The very way by which the notion of *bienséance* is brought up in his *Essay* is extremely significant. A central role is, indeed, conferred to it by Laugier for the term appears within the very definition of architecture - therefore, melted within what is the core of every architectural treatise. Thus is written at the beginning of the Third Chapter of the *Essai sur l'architecture*: "Il faut construire avec solidité, pour la commodité, dans la bienséance."<sup>73</sup> The sentence is printed separately from the remainder part of the text and thus performs as a preface to the whole Third Chapter, which contains the most theoretical part of the *Essai*.

Laugier's definition is, as we can clearly see, three-fold, in the manner of Vitruvius. But this plurality contains also a certain hierarchy which might also

72. See Mario Perniola, "Dal prepon al decorum. Note sulla bellezza effettiva." *Rivista di Estetica* 12, (1982): 44-52.

73. "One must build with solidity, for convenience and according to bienséance." Marc-Antoine Laugier, *Essai sur l'architecture*, cit., p. 68 of Hermann translation, cit.

74. Werner Szambien, *Symétrie, Goût, Caractère*, cit., pp. 95-96.

reflect Laugier's Jesuit education.<sup>74</sup> The sequence "solidity - distribution - *bienséance*" follows, in fact, the Jesuit framework of "means, target and spirit," where the *bienséance* would correspond to the spirit. I will show later how this kind of interpretation will fit the connotation which Laugier gives to *bienséance* in the whole *Essay*.

From these considerations it is clear that, for him, *bienséance* is a basic principle of architecture; it regulates the magnificence or, more precisely, the quantity of magnificence to be given to architecture. This basically happens in relationship to two parameters: the use for which the building is destined and the social status of the dwellers. The kind and quantity of ornaments will, then, be adequate to these two guidelines. Consequently it will not be possible, for instance, to build churches which contain profane ornaments: "This means sinning openly against all rules of *bienséance*."<sup>75</sup> Similarly, royal palaces will be rich of decorations inside as well as outside, whereas "Buildings intended to house the poor must retain something of poverty."<sup>76</sup> According to this general rule, building can be divided in several categories, each of them having its own degree of magnificence: poor, simple, noble, extraordinary...

The mechanism is quite direct, almost automatic, to the point that it can even work reversely. It means that in the case of existing buildings we can, then, change their use in order to adapt them to the kind of magnificence that they erroneously might happen to possess. This is exactly what Laugier proposes for

75. Laugier, *Essai sur l'architecture*, cit., p. 90 of Hermann trans., cit.

76. Ibid., p. 98.

the church of the *Invalides*:<sup>77</sup> because the decoration of its apsidal area is over sumptuous it should switch its function, from Church to Mausoleum, to reestablish a correct observance of *decor*. *Bienséance*, then, might be defined as the regulation valve of beauty, or, if we want to use another expression, the distributor of magnificence: “*Bienséance* demands that a building is neither more nor less magnificent than is appropriate to its purpose.”<sup>78</sup>

77. Ibid., p. 91.

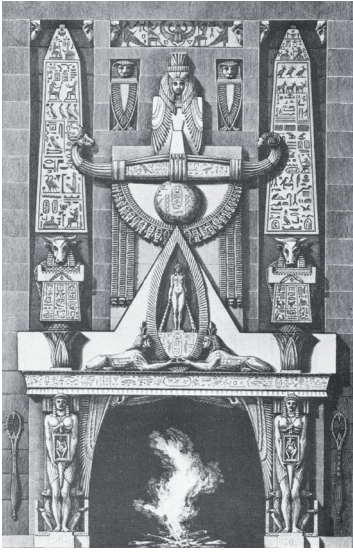
This is the way in which Laugier concludes its chapter on the basic principles of architecture: “An architect, knowing well what is fitting to each person, will elaborate or restrain his plans according to his judgment, never forgetting the true principle that a beautiful building is not one that has any kind of beauty, but one that, considering the circumstances, has all the beauty that is befitting and nothing beyond.”<sup>79</sup>

78. Ibid., p. 90.

79. Ibid., p. 99.

We might then argue that *bienséance* is that peculiar element which relates architecture to two things: the use by men and the nature of places. *Bienséance* is, then, the connection between architecture and humanity, considering the latter in its complex hierarchy. Yet *bienséance* is also the connection between architecture and places. To this respect it is a concept that acts relatively outside the strict realm of design methodology: it indeed relates architecture to facts which are external to it. Several issues come up to this respect: the theme of architecture which “dresses up for town” - think about the case of Philip Webb whose style became increasingly more austere as his buildings moved from the countryside to the heart





Giovan Battista Piranesi,  
Egyptian chimneypiece

of the city. But it also involves the problem of the adaptation to different customs or the exportability of architectural tradition – the case of Lutyens in India might be an interesting source of reflections.<sup>80</sup>

Most of what I have described so far is not new: it is, as I have already pointed out, the old Vitruvian discipline of *decor*. But Laugier's idea of *bienséance* goes beyond the mere reuse of a Vitruvian term. Something deeper and subtler seems to be included in his formulation. His very definition of architecture, which we have already commented, suggests this possibility: "Il faut construire avec solidité, pour la commodité, & dans la bienséance."<sup>81</sup> According to this definition *bienséance* is, as the very meaning of the preposition *dans* suggests, a condition of existence for architecture, a kind of very general context within which architecture "occurs". It is, indeed, a concept that immanently permeates design choices beyond any mechanic equivalence of use and decoration. Yet the conceptual richness of the notion of *bienséance* brings us to a further consideration. In it we can find the tracks of a similar idea which is that of *appropriation*. We owe the latter to the English landscape designer Humphrey Repton, who strongly emphasized the satisfaction that owners felt because of the public awareness and acknowledgement of their territorial belongings. Repton's obstinacy on the importance of this idea is notorious; it reached the point of even making him the object of satire.<sup>82</sup> Briefly, "appropriation" prescribes that in designing we have to make the belonging of physical space

80. See Werner Oechslin, "Chinese or classic." *Lotus International*, 34 (1982): 60-63.

81. See note above (*Italics mine*).

82. Alessandra Ponte, "Artificial Landscape. The Case of Humphry Repton." *Lotus International* 52 (1986): 60.

to the owner as much readable and evident as possible. Particularly in landscape or garden design the uniqueness of property must be recalled with as many elements as possible: landmarks, fences or proper buildings. According to Repton, just their stylistic unity or, anyway, their consonance to the owner's character will make evident the attribution of that portion of space to the person. This will be satisfactory to the client but it will also guarantee the good outcome of the project. Repton was, indeed, proposing a different form of "adjustment of architecture to man," under the sign of private property. We are, then, very close to that "adjustment of architecture to the social class of the dweller" we have already dealt with. Besides, the connection between the two concepts of "appropriation" and "propriety" is quite clear if only because of their etymological common root.

Humphrey Repton certainly belongs to a cultural realm quite different from that we have dealt with so far and, also, he limited the application of his ideas to landscape design. Yet it is interesting to point out that

Giovan Battista Piranesi,  
Entrance Hall of Syon House  
by Robert Adam, 1779





83. On John Nolen see John Hancock, " 'What is fair must be fit.' Drawings and plans by John Nolen, American city planner." *Lotus International*, 50 (1987): 31-46.

84. John Nolen, *Replanning Small Cities* (New York: B. W. Huebsch, 1912), p. 35.

85. Rykwert, *The First Moderns*, cit., pp. 389-90.

a pupil of his, John Nolen,<sup>83</sup> while exporting Repton's ideas into urban planning once again addressed the theme of *decor*. Indeed John Nolen, very prolific 20th century American urban planner, believed that: "Four general principles of landscape design ... are particularly applicable to city planning ... (1) to conform, so far as possible to the topography; (2) to use places for what they are most naturally fit; ..."84

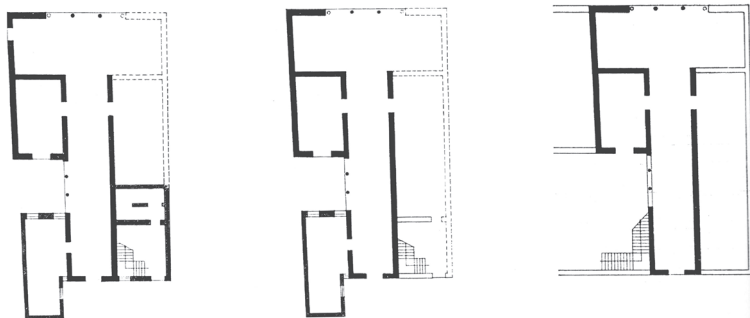
But what interests me most is that both Repton's and Nolen's ideas are recoverable in Laugier. His overt admiration for the works of Emanuel Héré de Corny in Loren for the Duke Stanislao Leczynski, is indeed inspired by the idea that the character, the genius of the owner has to be emanated in every element.

The picture which I have outlined so far conjures up an uncontested, almost granted, existence of the idea of *bienséance* or *decor*, within architectural thinking. But things are hardly that simple: certainly the real spectrum of possibilities for building up an architectural project cannot be circumscribed to the limited horizon of a wider or stricter observation to the rule of *bienséance*. To this regard the cases of non observance are several. Just to mention a remarkable example we might look at the way Lodoli structured the relationship function/representation conceiving *rappresentazione* as something always well different from the French *bienséance*.<sup>85</sup> But certainly the one who more than anyone else acted in a diametrically opposite direction was Giovan Battista Piranesi. It is, in fact, possible to confer logic to architectural design, making the very negation and the very avoiding

of *decor*, the basic principle. I allude to an “anti-decor” architectural design in which dissonance, non-opportunity, non propriety are the basic principles. It is not surprising that a major sustainer of such a conception was just Piranesi - a tenacious opposer to Laugier on other topics. I will leave aside the notorious battle on the origins of architecture which opposed the two characters to treat the conceptual opposition of Piranesi’s “sublime” architecture as against Laugier’s *bienséance* architecture.

For this purpose there is not certainly a better example than the plates which lavishly illustrate the *Diverse maniere di costruire i Cammini...*” These are designs of fireplaces, some of which were executed but no longer exist. In their composition Piranesi practices a regular refusal to any propriety to the context as well as a refusal to any sort of reciprocal consonance of the elements among themselves. Nothing in the compositional logic of these *Cammini* comes out from an observation of the rules of *bienséance*. It is, rather, the contrary: the decorative elements are borrowed from other contexts, with a

Saverio Muratori,  
Casa Barizza on the Grand Canal



manifest exasperation of their strangerhood. Scalar relationships are altered so that many elements turn out to be out of scale, and therefore unproportioned in respect to the composition; also, their collocation is definitely and deliberately inadequate. It is really an “out of scale” and “out of place” architecture, yet it is not casual or logicless. It, rather, answers to a precise methodological rule. Piranesi in fact made no mystery of this choice: “Questi medesimi mi domanderanno ragione di tanti pezzi uniti insieme in questi camini all’Egiziana, la maggior parte dei quali se non tutti essendo stati simboli, non pare che convergano nel significato. Ora quanto alla prima delle costoro richieste rispondo, che il grottesco ancora ha il suo bello, e reca diletto.” “Gli uomini sono troppo amanti della varietà per godere sempre di una medesima decorazione: ci piace di alternare coll’allegro il serio, e sino il patetico, anche l’orrore delle battaglie ha il suo bello, e di mezzo alla tema esce il diletto,” “...la molteplicità degli ornamenti non presenterà all’occhio una confusione di oggetti, ma una vaga e dilettevole disposizione di cose.”<sup>86</sup> These passages are self explanatory. It is clear that Piranesi sought an architecture where the bursting effect itself was often the final aim. His architecture was a sublime one, quite far from Laugier’s. Not accidentally, indeed, the term sublime rarely appears in Laugier.<sup>87</sup> It is clear that all his theory escapes such an aesthetics which is violent, difficult and definitely incompatible with the quietness of a *Bon sauvage* who finds a shelter in the rustic hut.

86. Giovan Battista Piranesi, *Diverse maniere di adornare i Cammini ed ogni altra parte degli Edifici* (Rome, 1778-1791), pp. 10-12.

87. See Vittorio Ugo, “Teoria e progetto - Le dimensioni essenziali dello spazio del logos,” foreword to the Italian translation of Laugier’s *Essai sur l’architecture*, (Palermo: Aesthetica Edizioni, 1990).

## 5 | Abstraction and materiality within architectural design

The notion of “abstraction” is apparently far from a discipline heavily involved with the “making,” such as architecture.<sup>88</sup> Yet, notwithstanding the factual dimension of architecture, the exclusion of abstraction – often taken as a real taboo – from architectural thinking has sometime led to misunderstanding. A primary case is the notion of typology, sometimes wrongly assumed as a real model. This has produced not marginal confusion.<sup>89</sup> The relatively recent reappraisal of Quatremère de Quincy, has, in fact clarified the difference between model and type. More notably it has also stressed how the very idea of typology is brought about by a process of abstraction, and therefore it cannot be conceived out of this realm. Slightly before Quatremère, Hegel had strongly stigmatized the fact that abstraction and materiality cannot be taken as in total oppositions one to the other.<sup>90</sup> Similarly assumptions are valid for the notion of “scheme”, that in architecture is tightly linked to type. About the scheme Kant’s theories on the relationship between schemes and concepts within human knowledge are of paramount importance.<sup>91</sup> Type and schemes are also graphic representations for

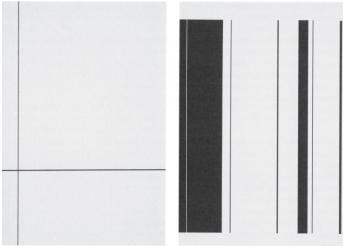
88. On abstraction see Carlos Martí Arís, “Abstracción en arquitectura: una definición,” *DPA. Documents de projectes d’Arquitectura*, 16 (2001): 6-9.

89. See Werner Oechslin, “Astrazione e architettura,” *Rassegna*, 9 (1982): 19-24. See also the entire issue of *Daidalos*, 1 (1981) devoted to the theme *Drawing as a medium of abstraction* and in particular Werner Oechslin, “Geometry and Line. The Vitruvian Science of Architectural Drawing”: 24-35.

90. G.W. Friedrich Hegel, *Wissenschaft der Logik* (Nürnberg: Johann Leonhard Schrag, 1812-1816), II, p. 225; English translation as *The Science of Logic* (Cambridge, New York: Cambridge University Press, 2010).

91. On the notion of scheme in architecture see: Alfonso Stocchetti, Loris Macci, *Lo schema - chiarificazione di un linguaggio* (Firenze: L.E.F., 1969).

See also Vittorio Ugo, “Skhēma.” *XY – Dimensioni del disegno*, 3, 1987: 21-32; Michele Sbacchi, “Cesare Brandi: schema e progetto,” in Luigi Russo, editor, *Attraverso l’immagine. In ricordo di Cesare Brandi. Supplementa*, vol. 19 (Palermo: Aesthetica Edizioni, 2006), pp. 149-156 and Michele Sbacchi, “Schema e progetto,” in M. Aprile, C. Ajroldi and A. Sciascia, editors, *Note sulla didattica del progetto* (Palermo: Edizioni Caracol, 2009), pp. 102-105.



Ludwig Mies van der Rohe,  
Visual training exercises at the IIT, 1938-42

92. Less legendary discoveries, made by means of the same principles are those of Aristarchus, who made a similar attempt in order to measure the sun and the moon, and of Eratosthenes, who did the same with the circumference of the Earth. Among the others, Vitruvius also gives account of Eratosthenes's discovery. Michel Serres, "Thales au pied des Pyramides", in *Hermes* (Paris: Les Éditions de Minuit, 1968-77), v. 2., *L'interference*; Engl. translation as "Mathematics and Philosophy: What Thales Saw..." in *Hermes: literature, philosophy* (Baltimore: The Johns Hopkins University Press, 1982), p. 85.

architects. They are actually constituted by another abstract element, the line. This latter, interestingly, was not generated within architecture but migrated into the core of architectural design from the outer worlds of geometry and painting.

The legend of how Thales devised a method for measuring the pyramids is reported by Diogenes Laertius and Plutarch. As the story goes Thales, ingeniously, thought of comparing the height of the pyramid and the length of the shadow cast with those of a vertical object such as a stick. The shadow of the Pyramid and that of the stick would be proportional. He, therefore, constructed two virtual triangles out of the vertical axes of the objects, the lengths of their shadows and the line linking the apex of the objects and the extremes of the shadows. Through this simple observation Thales solved a problem that had long challenged the ancients: how to measure an unreachable object.

The devise that he employed is his famous theorem of the similar triangles that still carries his name today.

To formulate this theorem he used two basic notions: that of "model" and that of "scale." Only by combining these two notions was he able to achieve his aim. The mensuration of the pyramid is, in fact, based on the possibility of an analogous representation, the model, and on the possibility of its being proportional, scalar - "similar", indeed, as in Thales's theorem. It is the idea of the transposition of an unreachable figure into a more immediate realm in the form of a miniaturized scheme. Thales indeed discovered nothing but the possibility of reduction, the notion of model.<sup>92</sup> These

two presuppositions are the very basis of architectural drawing.

But the legend is important for another reason: Thales conceived of lines in abstract terms. His two triangles contain projective, “virtual” lines such as the one linking the apex of the pyramid to the end of its shadow cast on the ground. Thus he inaugurated the geometry of abstract lines.

Among the manifold implications of Thales’s legend I want to stress this latter because it makes the connection between linearity and abstraction that is the theme of this chapter. Indeed I will try to see how these two ideas merge in the realm of architectural drawing. In fact in spite of the supposed concreteness that the idea of drawing can suggest, in architectural drawing lines are always present as abstract elements and, moreover, this very presence as primary elements makes architectural representation a mere operation of abstraction.

If we forget for a moment the more subtle distinction between abstract and concrete lines, as observed in the case of Thales, we can see how lines always represent something that does not exist in reality. The edge of a wall or the corner of a room, for example - things that we are accustomed to “read” as lines in architectural drawings - do not exist at all in the reality of which the drawing is a credible representation. Paradoxically architects draw in negative, leaving blank spaces where materials are and marking things that do not exist.

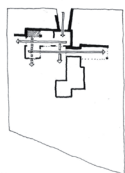
But the abstract nature of lines is ratified by at least two more cornerstones of our culture: the Euclidian

definition and the legend of the origin of drawing. It is symptomatic that the by far the most influential definition of line, that made by Euclid, is, in fact, that of "length without width." This definition seems to have been an everlasting statement and, not surprisingly, is widely present in architectural treatises throughout the centuries.

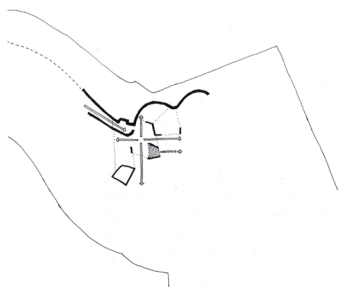
Pliny<sup>93</sup> tells us the story of a Corinthian maiden who, in occasion of the departure of her lover, traced his profile on a wall, as a reminder. The interesting thing is that she chose the profile, therefore a line, as the most precious mean of representation. The profile was meant as the most representative and synthetic of the possible signs. The importance given to the contour

93. Plinius, Secundus, Gaius, *Naturalis Historiae*, XXV, 12, xliiii; English translation as: The elder Pliny, *Natural History* (Cambridge: Harvard University Press; London: W. Heinemann, 1949-1962).

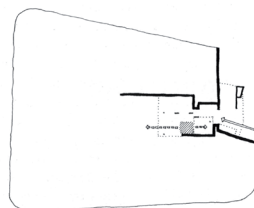
Rafael Diez Barreñada,  
Schemes of Coderch's houses



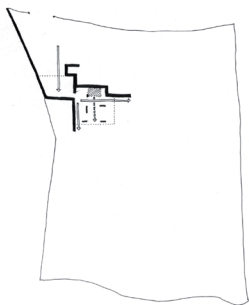
Casa Ferrer Vidal, 1947.



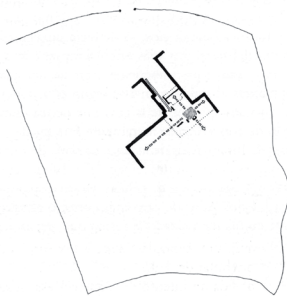
Casa Ugalde, 1952.



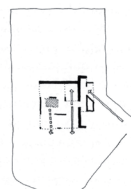
Casa Puertas, 1953.



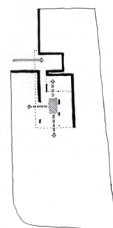
Casa Uriach, 1962.



Casa Luque, 1964.



Casa Dionisi, 1953.



Casa Torrents, 1954.

figure explains why this legend became so fashionable at the end of the 18th century in the period of the “linear style.”

But in this legend, similarly to that of Thales, again the origin of line is connected to light projection and shadows.<sup>94</sup> This can seem almost prophetic if we think of the modern developments of architectural drawing, namely Projective and Descriptive geometries, almost entirely grounded on projections and abstract lines.

The idea of line in many aspects is widely and significantly present in the texts by the major architectural theorist of the Renaissance, Leon Battista Alberti. What is more important to me is that in Alberti “linearity” and “abstraction” are tied together far beyond the realm of mere representation, but within the basic principles of architecture.

Since his early treatise on painting *De Pictura*, written in 1435, Alberti follows, not surprisingly, the Euclidian definition of line - as well as those of point and surface. This occurs in the first book of the treatise, where he gives the basic definitions for painting. He will later restate the validity of the Euclidian knowledge in his *Ludi Matematici*, which is entirely devoted to such topics. In *De Pictura* the art of painting is divided into three parts: outline, composition and reception of light.<sup>95</sup> Although he considers lines as elements of painting, in all their manifold reality, he gives only to outline (*circumscriptio*) a conceptual and therefore grounding role. His wide concern with lines continues in his later and more famous treatise on architecture *De Re Aedificatoria*, written around 1450. There again the word *lin-*

94. See Robin Evans, “Translations from drawing to building,” *Casabella* 508, December 1986, republished in *Translations from Drawing to Building and Other Essays* (Cambridge, Mass.: MIT Press, 1997).

95. “Picturam igitur circumscriptio, compositio et luminum receptio perficiunt,” Leon Battista Alberti, *De Pictura* (1435), 11,31; English translations by Cecil Grayson as *On Painting and Sculpture* (London: Phaidon, 1972).



*ea* is used throughout the ten books but the notion of “linearity,” more remarkably, appears within the term *lineamenta*. The meaning of this term is somewhat obscure to us but it is of crucial relevance to Alberti’s conception of Architecture. It is the subject matter and title of his first book *Lineamenta* in which he sets up the basic rules of architecture. But the term appears even before the first book: in the Prologue, in fact, Alberti says: “First we observed that the building is a form of body, which like any other body consists of lines and matter, the one the product of thought, the other of nature the one requiring the mind and the power of reason, the other dependent on preparation and selection: but we realized that neither on their own would suffice without the hand of the skilled workman to fashion the material according to the design.”<sup>96</sup> Thus Alberti gives his first definition of *lineamenta* as something abstract, making it clear that they are a product of thought, and stressing the opposition with matter. In the first book, alternatively, the dichotomy *lineamenta/materia* is replaced by that of *lineamenta/structura*, this latter closer to the Vitruvian definition of architecture made of *ratio* and *opus*. Thus Alberti: “... the whole matter of building is composed of lineaments and structure. All the intent and purpose of design (*lineamenta*) lies in finding the correct, infallible way of joining together those lines and angles which define and enclose the surfaces of the building. It is the function and duty of design then to prescribe their appropriate place, their exact numbers, a proper disposition and a graceful order for whole buildings and for each of their constit-

96. “Nam aedificium quidem corpus quoddam esse animadvertimus, quod lineamentis veluti alla corpora constarent et materia, quorum alterum istic ab Ingenio produceretur, alterum a natura susciperetur: huic mentem cogitationemque, huic alteri paratim selectionemque adhibendam, sed utrorumque per se neutrum satis ad rem volere intelleximus, ni et periti artificis manus, quae lineamentis materiam conformaret, accesserit.” Leon Battista Alberti, *De Re Aedificatoria* (Florence: Nicolò di Lorenzo, 1486), Prologue; English translation as *On the Art of Building in Ten Books*, by Joseph Rykwert, Neil Leach, Robert Tavernor (Cambridge, Mass.: MIT Press, 1988).

uent parts, so that the whole form and appearance of the building may depend on the lineaments alone. Nor have lineaments anything to do with materials.”<sup>97</sup>

The intellectual nature of lineaments is stressed again and, by implication, their absolute independence from materials: “It is quite possible to project whole forms in the mind without any recourse to the material by designating and determining a fixed orientation and conjunction for the various lines and angles.”<sup>98</sup> *Lineamenta* are, therefore, what is general about a design, what is indifferent to materials, what is untranslatable and fundamental about a building.<sup>99</sup> In this sense they are an abstraction.

Certainly the obscure sides of this term still remain and it is difficult to find in any modern language an exact equivalent.<sup>100</sup> To this respect it is not surprising the peculiar fact that Alberti deliberately conceived all of his treatises on visual arts without images. *De Pictura*, *De Statua* and *De Re Aedificatoria* are not missing the images, they have been conceived without. To this respect it might be not a coincidence that we have only one survived drawing by Alberti. Even more consistent is the fact that also the *Descriptio Urbis Romae*, is a plan, that is meant not to be represented, and for which, instead are provided numerical instructions. Mario Carpo’s convincing argument that Alberti was forerunning future digital representation, trying to substitute analogical drawings with an archaic form of algorithm, or script can cast some light on this topic.<sup>101</sup> Indeed it seems that the process of abstraction in the case of Alberti went beyond

97. “Tota res aedificatoria lineamentis et structura constituta est. ...Lineamentorum omnis vis et ratio consumitur, ut recto absolutaque habeatur via cooptandi iungendque lineas et angulos, quibus aedificii facies comprehendatur atque concludatur. Atclui est quidem lineamenti munus et officium proescribere aedificiis et partibus aedificiorum aptum locum et certum numerum dignumque modum et gratum ordinem, ut iam tota aedificil forma et figura ipsis in lineamentis conquiescat. Neque habet llineamentum in se, ut materiam sequatur,” *ibid.*, p. 11.

98. *Ibid.*, p. 11.

99. I refer to the notion of translation in architecture as in Robin Evans, “Translations from Drawing to building,” *cit.*

100. See Susan Lang, “*De Lineamentis*: Leon Battista Alberti’s use of a technical term,” *Journal of the Warburg and Courtauld Institutes*, XXVIII (1965).

101. Mario Carpo, *The alphabet and the algorithm* (Cambridge, Mass.: MIT Press, 2011).

102. See Joseph Rykwert, "Inheritance or Tradition," *Architectural Design Profiles*, 21, vol. 49, no. 5-6, 1979: 2-6.

103. It was found by Howard Burns. See "A Drawing by L. B. Alberti," *AD Profiles*, 21, cit.: 45-56.

even the lines to hint at an intellectual realm where the architect could envisage a "thought-building" in opposition to the "built-building."<sup>102</sup>

The history of the different ways by which the word *lineamenta* has been translated is symptomatic of this difficulty. His wide concern with lines, however, is confirmed throughout the treatise but especially in the Seventh and Eighth chapters of the First Book, where a proper theory of form, based on lines, is given. Although it is clear that *lineae* and *lineamenta* are definitely two different things, the former standing for a general method and the latter for actual lines, it seems to me that something more than a mere etymological affinity accommunates these two terms. I rather think that a very general idea of "linearity" is the root of both, making them closer to each other of what one would think. The lines which he describes in detail, when he deals with the setting up of the area and, generally, when he speaks of architectural drawing (notwithstanding their geometrical nature) are given a more abstract consideration than in other theorists. They share a part of the very nature of *lineamenta*. On the other hand, *lineamenta* cannot be considered "design" *tout court* but, rather, a lines-based design. An helpful example to grasp this connection could be the only drawing accredited to Alberti, that we know, at the Uffizi, in Florence.<sup>103</sup> It is a plan for a thermal building, very schematic, made entirely of lines, with no rendering of the thickness of walls which gives therefore a very immaterial and diagrammatic idea of the building. It is too refined to be a scheme but too

meager to be a proper horizontal section. Its being in such a halfway position puts it in that common ground between *lineamenta* and *lineae* that I was hinting at.

Unfortunately this is the only drawing by Alberti that we can look at. More drawings, should they ever existed, might probably clarify the understanding that linearity, in his conception, was part of both representation and design.

The discussion about this issue remained somewhat secondary; only writers like Lomazzo and Zuccaro dealt with such topics but with rather different approaches. More relevant is the tendency towards abstraction which has been the key of the opposition of *disegno* and colour which has informed, with variable strength, art theory throughout 16th, 17th and 18th centuries. It was an opposition of methods: whether paintings should be made on the basis of an initial linear sketch - something analogous to what Alberti called *circumscriptio* - or whether they should be made starting just with colours. But, seen from a slightly different point of view, it was also an opposition of styles: whether more emphasis should be given to the expressiveness of colours or to the overall composition of the figures. According to this division the great masters of *disegno* and *colore* were respectively the Florentines and the Venetians. This was the common belief from the 16th century until the first half of the 18th century. The opposition of *disegno* and *colore* was the theme of a great polemic that later developed. This time the champions of *disegno* and *colore* were Poussin and Rubens respectively. The quarrel was centred around

Roger De Piles, a theorist who acted as a sort of referee and even provided a list in which the great masters were marked according to points of observation of *disegno* and *colore*. Later Kant also paid attention to this subject and, not surprisingly, stated the superiority of *disegno*.

*Disegno* meant a kind of schematic representation, totally made up of lines. It was a representation concerned with overall composition, something that had very much to do with the general and the immaterial. “Colour,” on the other hand, embodied the features of the matter, was concerned with picking up the concreteness of materials.

There is an echo of Alberti’s *lineamenta* but it also recalls a statement by Zeno, reported by Plutarch: “colours are the primary schemes of matter.”<sup>104</sup>

What has been called the “International Style of 1800” was partly influenced by this polemic. It is a manifold phenomenon that involved art as well as architectural representation and architecture for it consisted in an increasing presence of outline representations. There was a radical change if we think of the previous conception. In fact, until that moment, pure outline representations were regarded as trivial and secondary because of their simplicity and immediateness. The earlier tendencies towards a newly conceived “linear style” can be found in the work of the English artist James Barry. He emphasized the use of lines, contours and profile positions for his characters. His painting was of course solidly grounded on the academic theory of the primacy of *disegno* over colour. In the 50 years

104. Quoted by Manlio Brusatin, “Disegno/Progetto,” in *Enciclopedia Einaudi* (Turin: Einaudi, 1982), vol. IV, pp. 1098-1150.

following the 1760's, the period of the Barry's paintings, the style reached its maturity with people like Flaxman, Gagneraux and Corstens, to quote only the most important ones.

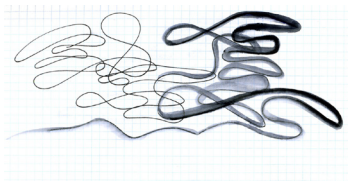
But the real triumph of outline representation occurred in the field of the engraved recording of antique art. That was the period of great discoveries of Greek relics and of the Etruscan Revival and Winckelmann, the leading personality of this field, constantly stressed the superiority of relief and outline: for him the important qualities of objects were perfectly encased on this kind of primordial status.

Despite this, linear engravings were still considered inappropriate and were used only for inscriptions. This of course slowed down the process towards pure outline engravings and the first publications of Etruscan antiquities like Thomas Dempster's or Francesco Gori's still give evidence of a compromise between the two styles.

On the contrary the three volumes which illustrate the famous collection of antiquities of William Hamilton are entirely made of outline engravings.<sup>105</sup> Hamilton was an English envoy to the court of Naples, volcanologist and art collector. The engravings were made after drawings by William Tischbein, an artist whose fascination for the expressiveness of linear representation goes beyond the limit of mere interest for an objective archaeological rendering. In the preface of his main work Tischbein uses expressions such as "sublime merit in the simple outline of the figures of these vases" and "purity and outline."<sup>106</sup> In

105. William Hamilton, *Collection of engravings from ancient vases mostly of pure Greek workmanship discovered in sepulchres in the kingdom of the Two Sicilies but chiefly in the neighbourhood of Naples... now in the possession of sir W.m Hamilton ...* (Naples, 1791-95).

106. Ibid.



Zaha Hadid,  
Sketch for the spiral tower, Barcelona 2008

these engravings the objects are totally reinterpreted in terms of lines and there is a voluntary omission of shadows and ornaments, as Hamilton declares. If this work is confronted with similar earlier ones, like Caylus and Montfaucon, the difference is manifest. Yet what is more important is that the affirmation of linear style is strictly merged with the widespread concern for a search of the origins. Curiosity for a not clearly identified Greek or Roman art coupled with an interest in Italian primitive painters: Cimabue, Giotto, Gaddi – in which the same kind of simple, anti-artificial style was recovered at that time. We must note now that it is symptomatic that the field within which linear style arose and best developed was that concerned with the reproduction of earlier works of art: reduction to lines equals with return to the origins. Lines were considered as a figurative equivalent of fundamental principles in a manner very similar to Alberti's idea of *lineamenta* for architecture.

To this respect it is symptomatic, not only the work of Tischbein, but that of Seroux D'Angincourt, who made reduction to lines and therefore abstraction as a fundamental realm where art and architecture were conceived. Wittkower's schematic drawings of Palladio's villas, and Colin Rowe's comparisons of the plans of Palladio and Le Corbusier, move within this wake. A realm in which abstraction reduces architecture to schemes, which are ultimately "drawn typologies." Abstraction reached its apex in works such as Giovanni Volpato and Raffaele Morghen's *Principi del disegno tratti dalle più eccellenti statue...* or Martino

Metz's *Principi del disegno ricavati dagli antichi monumenti*. In these works, in the attempt to find eternal numerical relations in works of art, the process went beyond the pure geometrical abstraction considered so far. The reduction in fact was also mathematical. The most important diffuser of the outline style in architectural engravings was Charles Normand. Besides his own works he made a huge amount of engravings: notably, and not by chance, those for Durand's *Précis* and *Recueil*. Indeed the implicit simplification of linear style, stressed by Normand, had certainly something to share with the rationalization imposed by Durand. But the best embodiment in architecture of all the aspects of the idea of linearity is the *Empire* style of Percier and Fontaine: it was linearly conceived, linearly drawn and linearly transmitted.

It is worth noting that Alberti also was specifically concerned with outline. In his theory the term is given a rather conceptual connotation being one of the three elements of beauty, along with "number" and "position." Indeed the word "principle," which is significantly present in many titles of texts so far examined, brings us to another aspect of the idea of abstraction. "Principle," indeed contains the twofold meaning of "theoretical principle" and that of "beginning." This duality is rooted in the process of abstraction which, is ultimately a search for fundamentals and therefore seeks both principles and origins. In this light we can better understand the connection between linear style and the general fascination for "origins" that characterized that period.



In architecture a remarkable occurrence was the return to the severe geometry of the Doric order, considered as a symbol of an archaic pure society. In some extreme cases the trend was pushed even further to an extemporal and astylistic architecture made only of its geometric outline.

But I do not want to overstate the leading role of linear abstraction at that time. Other theories, both in art and architecture, in fact, with different trend, have lines share their primacy with colors. This is, most notably, the case of Humbert de Superville, a Dutch artist, theorist and connoisseur, who envisaged a system of unconditional signs.<sup>107</sup> In his *Essai sur les signes inconditionnelle dans l'art* he reinterpreted architecture and art – mainly Italian Medieval – making manifest what for him were a kind of eternal characteristics. These characteristics were lines as well as colors. His theory was partly based on the discipline of physiognomy that became very popular and influenced most of the artists of the period. Yet we can trace other theories more conciliatory towards the two poles of *disegno* and *colore*.<sup>108</sup> Henri Füssli, for example, explained art in terms of evolution from sciagrams to monograms and ultimately to polychromy.<sup>109</sup> This stream of thought later led to the theory of polychrome architecture of Hittorf and Semper and to the relevant debate about colors in Greek temples. As is known, Semper and his *faberbeckleidung*, was going to be echoed by Loos in his rather enlightening principle of cladding. The contemporary debate about envelope in building does not escape these fundamental earlier speculations.

107. Jacques Guillerme, "Faccia/facciatella. Il lavoro delle finzioni schematiche nell'Essai di Humbert de Superville." *Rassegna*, 9 (1982): 62-68.

108. Robin Middleton, "Perfezione e colore: la policromia nell'architettura francese del XVIII e XIX secolo." *Rassegna*, 23 (1985): 55-67.

109. Johann Heinrich Füssli, *Lectures on painting* (London: Printed for J. Johnson, 1801), p.110.

## 6 | Dressing the architectural body

In many Western languages the etymological link between dress and building is evident and meaningful: in Italian *abito* is dress while *abitazione* is synonym of *house*; in German *wand* is wall and *gewand* is dress. *Habit*, a third derived term, gives further implication to this conceptual and etymological linkage. Yet, despite this closeness, the juxtaposition of fashion and architecture has always been an “uncomfortable,” if not openly conflictual, matter.

They are as a matter of fact very close fields whose connection has often generated an interesting debate, yet an unclear one. As is well known it is symptomatic that, among the masters, the only one architect/theorist that dwells upon this common ground is Adolf Loos.

Other than Loos, few architects have dared to face the disciplinary overlapping: the majority have preferred to skip it. In the broaden context of culture, instead, the theme has been often treated although this treatment has not been solidly grounded. Often the parallel between architecture and fashion has been taken as a sort of automatic overlapping between the two. A typical standpoint is that architecture and fashion



Lina and Adolf Loos Bedroom, Wien 1903

110. Gottfried Semper, "The Development of the Wall and Wall Construction in Antiquity. London Lecture of November 18, 1853." *Res*, 11, Spring 1986: 33-53.

are, after all, the same thing, being their materials the only thing that varies.

Distinguished voices, instead, dwell upon the analogy between architecture and textile art and from them we perceive that the relationship between dress and building is certainly complex and meaningful and apt to possible speculations beyond the mere similarity.

Using the already quoted parallel between *wand* and *gewand*,<sup>110</sup> Gottfried Semper outlines his famous law of cladding on which he grounds his theory of the textile origin of architecture. Semper's speculation is interesting as far as he singles out weaving as the primordial human activity, from which – only as a consequence – springs architecture. And indeed it is curious, and certainly not accidental, that from Semper's followers in Chicago originates one of the most

used terms in modern architecture: curtain-wall, with his manifest allusion.

This topic helps us to better understand some issues more inner to techniques of architectural design. If we look at Wright, an architect that comes exactly from the same *milieu* of Chicago, we can see how he adopted composition manners where the wall is treated exactly as a textile.<sup>111</sup> We can trace in Wright's brick walls the typical "warp and weft" which are repeated and composed and ultimately "dress" the body of the building. There is therefore in Wright a clear conceptual debt towards Semper and Sullivan as far as theory is concerned. It is anyway in his buildings that we can find this way of treating the walled surfaces in a textile manner: the Ennis House in Los Angeles and the Imperial Hotel in Tokyo, are quite noticeable evidences.<sup>112</sup>

Wright of course was not alone. Many other architects have assumed this attitude. In some cases the analogy is actually more programmatic and lapidarian. Certainly the Philharmonic by Hans Sharoun in Berlin falls in this category. It is actually considered as a textile thing altogether. It actually applies Quatremère de Quincy's idea that tent is one of the two archetypes of architecture.

In this case the "architecture of stone" does not relate directly to weaving but it does it by means of an "architecture of textile," the tent, which transfers its characters to the building. The wall composed as a textile, the building shaped as a tent, the *abitazione* as an *abito* make us aware of in-

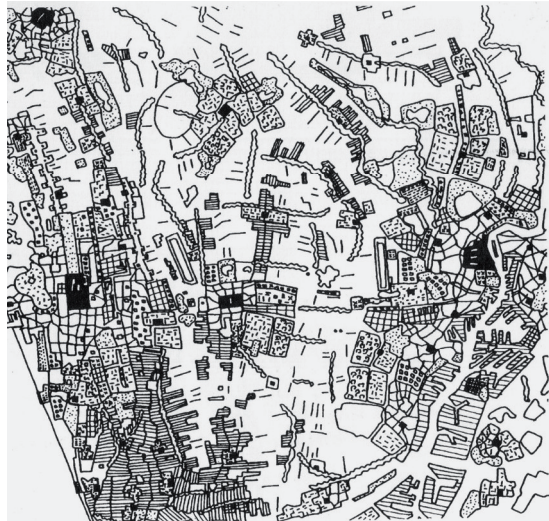
111. Kenneth Frampton, *Studies in Tectonics Culture. The Poetics of Construction in Nineteenth and Twentieth Century Architecture* (Cambridge, Mass.: MIT Press, 1995).

112. See Joseph Rykwert, "L'architettura è tutta nella superficie. Semper e il principio del rivestimento." *Rassegna*, 73, (1998), *Ri-vestimenti*: 20-29.

113. Felix Emmanuel Schelling,  
*Ausgewählte Schriften* (Frankfurt: Suhr-  
kamp, 1985).

triguing relations that exist between these two realms. Anyway the analogy was perceived also out of the world of architects and fashion designers. It was taken on a more pragmatic level, for example, at the beginning of 19<sup>th</sup> century by Schelling, who explicitly equates the work of the architect to that of the tailor.<sup>113</sup> In support of this thesis examples are not lacking: we can merely mention Van de Velde, whose activity of fashion designer and architect are actually inseparable. Yet Schelling makes an important point claiming the role of sculpture and recalling how the upmost achievements in this art are reached in drapery, which is another clothing activity. It is a kind of architectural clothing as far as it is petrified. Not different is the textile nature of the fold which notoriously is taken by Deleuze as the quintessence of the baroque spirit.

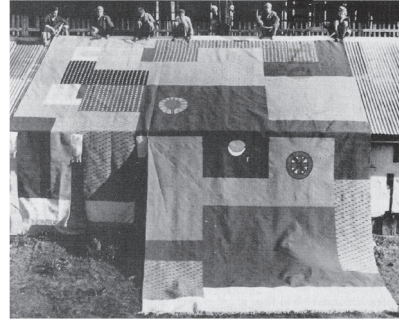
Willem Jan Neutelings,  
*Patchwork metropolis*, 1989



But what is the real common ground of the two disciplines of fashion and architecture? What is that ties together these two universes? Certainly the role and presence of the body as contained element. We have already seen this in Schelling, and, indeed, it is quite observable.

But the body we are talking about in this case is not the metaphorical and iconological body that has been for centuries at the basis of the making of Western architecture. The body to which we refer to, is, rather, the phenomenological one of Merleau-Ponty and Sartre. A sensing body, a “place of the simultaneous sensations,” a body which is not metaphorical of the universe nor is it mathematized according to proportional ratios. And it is also certainly a body not concluded, but extensible and relational, ready for contamination, suitable for the crossing over its own limits. Yet in our age it could hardly be different: transplants, self transplants, mechanical and electronic prosthesis, connectors and other medical therapies have deleted the conception of physical integrity of the body. Besides, we well know how the immateriality of virtual existence has made the physical essence of the body very weak.

There are contemporary art works which purposely convey this message. One of these is Rebecca Horn's *Overflowing-blood-machine* whose theme is the prosthetic dimension of the body. *Inasmuch as it is already taking place* by Gary Hill treats the body's fragmentary representation,<sup>114</sup> with a human body split in different electronic screens. We refer then to



Assembly of the pieces of Le Corbusier  
tapestry for Chandigarh High Court

114. To this regard see Georges Teyssot, “The Mutant Body of Architecture,” in Elizabeth Diller, Ricardo Scofidio, *Flesh: Architectural Probes* (New York: Princeton Architectural Press, 1994), pp. 8-35.

a body that has to be seen under a different perspective, a body which is “object of architecture” more than a metaphor for it. Shortly we might say that it is a “human body” which is already potentially an “architectural body.”

From here we can assume the body as the first step of a fluid sequence which allow us to order all the mass of artefacts that surround us as belonging to successive envelopes starting from the skin towards the universe. Moving within this sequence we can include prostheses, clothes, tools, furniture, and finally architecture. It is a corporeal system for considering and systematizing the environment. It might echo the “system of objects” proposed by Jean Beaudrillard, but indeed substantially differs from it. To understand the lawfulness of such an assumption I find quite enlightening the speculations of Mario Perniola,<sup>115</sup> when he clarifies the logic of “look,” within which bodies are considered as clothes, by means of a translation of values from the container (the cloth) to the contained (the body) and therefore backwards to that first stage.

Similarly Walter Benjamin<sup>116</sup> had singled out the same itinerary when he focused on fetishism, an attitude which transfers organic values proper of human body - basically those related to sex appeal - to objects or clothes.

But let us move further in our sequence and we will note that exactly in the last sphere – the one which separates interior design from architecture - Loos suggests a sort of fusion, if not inversion. For him,

115. Mario Perniola, *Il sex appeal dell'inorganico* (Turin: Einaudi, 1994); English translation as *The Sex Appeal of the Inorganic: Philosophies of Desire in the Modern World* (London: Bloomsbury Academic, 2004).

116. Walter Benjamin, *Das Passagenwerk*, vol. 1, p. 74. English translation as *The Arcades Project*, translated by H. Eiland and K. McLaughlin (Cambridge, Mass.: Belknap Press, 1999).

who, in the wake of Semper, places weaving in a primary position, architecture is born as a textile element. Consequently he states the primacy of interior design, which for him is the real architecture, a tactile complement to the body, ultimate cloth for men. This interior/intimate textile architecture only for static and instrumental reasons requires some sort of building to hold it up.

Consistent to this theory is of course the primacy given by Loos to space over surface. In explaining his famous concept of *raumplan* he declared: "My architecture is not conceived by drawings, but by spaces. I do not draw plans, facades or sections... For me, the ground floor, first floor do not exist... There are only interconnected continual spaces, rooms, halls, terraces... Each space needs a different height... These spaces are connected so that ascent and descent are not only unnoticeable, but at the same time functional."<sup>117</sup> For Loos, therefore, our sequence of envelopes ends with interior design and not with architecture.

With our previous reference to the notion of "look" we got closer to the issue of fashion, a theme almost inseparable from clothing. If we focus on the couple architecture/fashion under this light, we have again to acknowledge many misunderstandings in the general debate.

Nevertheless several interesting connections can be picked up. Firstly we can stress that the very birth of modern architecture and its related propaganda have been characterized by the will of fashioning it. As Mark Wigley has demonstrated,<sup>118</sup> the obsession for

117. Adolf Loos, Shorthand record of a conversation in Pilsen, 1930.

118. Mark Wigley, *White Walls, Designer Dresses. The Fashioning of Modern Architecture* (Cambridge, Mass.: MIT Press, 1995).



white colour which, after the first Le Corbusier and all the architectural avant-garde of the 20s, certainly goes beyond the conveying of purity as against eclecticism. It is actually also a deliberate – and successful – attempt to “dress” the new architecture. And, more importantly, to dress it with a uniform. The action made having this obligation to white plaster, is more comparable to a clothing action than to an outcome of a construction procedure, within which the skin is produced almost inescapably.

This intent of “fashioning modern architecture” is repeatedly stated notably by Le Corbusier in *L'art décoratif d'aujourd'hui* and elsewhere. Wigley amply outlines how the entire idea of Modern Architecture was conceived within a realm in which clothing and fashion had a primary role. And to this respect it is meaningful that architects, theorists and people involved in Modern architecture referred often to the work of fashion designers and tailors, much more than nowadays and much more of what generally acknowledged.

## 7 | CityLandscape

It has been widely studied how the contemporary territory is under the influence of a phenomenon known as the “blending” of the city in its surroundings. In such a situation the urban centers are still recognizable but the perception of the boundary between city and territory and between city and non-city becomes blurred. In this respect a definition has gained currency over the several others coined in order to describe this phenomenon: it is the definition of “diffused city.” It conveys with immediacy and clarity its prevailing aspect, that is to say the rarefied quality of the city outskirts, its fragmentation into a sprawling settlement. It has to be noted, however, that this fusion/diffusion does not present an homogeneous and even character but it happens through places, areas or following a line, according to the pace and direction offered by the infrastructures involved. Sometimes the dispersion is borrowed and it matches minimal areas of various types, simple buildings or little transformations. The borrowing is fragmented and episodic, limited as it can be to directions and placements, without any fixed rule or order.

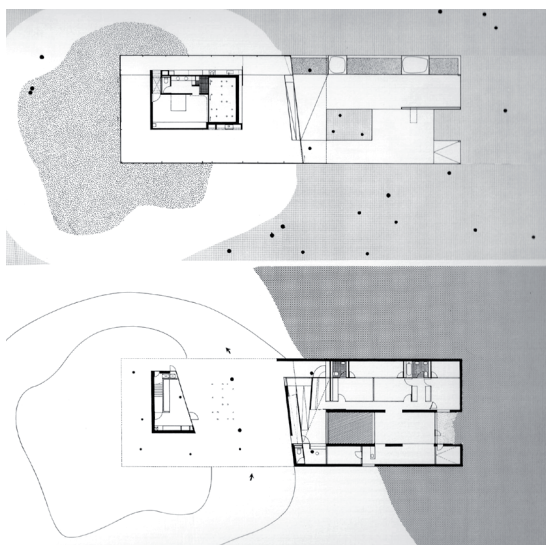
In recent times this phenomenon has been defined by



want to point out is that this diffusion is not the only manifestation of the phenomenon in question. In the explosion of the city in the surrounding territory, and this is especially true in Europe, the mere encounter of nature and culture is a rare occurrence.

It is mandatory, at this point, to move a step backward in order to focus on how the space within which the city spread itself is actually a territory already impacted by huge and millennium-old transformations. An important element must be borne in mind, an element often overlooked because it is pretty much taken for granted – and not by architects only. The fact is that if we have a close look at the territory outside the cities, the two principal transformations that have been going on for ages and for ages have been shaping the land, have not been the end-product of architecture but of agriculture and engineering.

With regard to the former, it is perhaps, among the transformative actions the human race has ever implemented on the earth surface, by far the most invasive



Rem Koolhaas, A Dutch House, 1992

and pervasive. It is also so easy to read its signs and traces: trees, fences, soil treatments, irrigation systems form the lines of an intricate and complex fabric. It would be useless to recall here the great wealth of studies that has investigated its formal components and whose major representatives are Emilio Sereni and Eugenio Turri. More recently the diffusion of aerial photography has highlighted its presence and has stressed the need for a new debate on the matter. The work of photographer-architect Alex MacLean is in this regard symptomatic and suggestive.

This ancient and more widespread transformation has been joined by a second one, the one represented by infrastructures. Water-supply systems, roads, bridges, dams, ports have been for ages the “strongholds” of human actions on the territory surrounding the cities. Infrastructures have underlined human intervention in a more evident manner but their impact has been less widespread than farming-induced transformations. As we know there has been a marked upsurge in the presence and incidence of infrastructures in the last two centuries. This has happened gradually, first with the advent of railways and later with the increase in the construction of roads, dams, electrification systems, etc. Infrastructures and farming-induced transformations have mixed together and overlapped over the centuries. It is common knowledge that the logics as well as the dynamics and the timings of both, are as different as they can be and therefore the conflicts between the two types of interventions have always been great in number and magnitude.

What we now call “landscape” is basically the combination of these two transformations, even though they do not represent the whole of it. Only later on city diffusion was added to the equation.

But in order to give a more accurate picture, it is important to point out that a “third landscape” does exist, according to the definition of Gilles Clément.<sup>121</sup>

With great insight Clément refers to that minority of residual spaces, no longer natural because impacted and singled out by human activity, but also untouched by agriculture and therefore still immune to its manipulations.

The complex combination of all of these elements is the contemporary territory, the modern citylandscape. It is clearly a strongly hybrid mix and not for nothing it has been referred to as “naturalartificial” so as to highlight its dual nature.<sup>122</sup> Therefore it calls for an approach capable of taking into account these heterogeneous components.

Modern architecture has interpreted its relation with the landscape by favoring, as Carlos Martí Arís<sup>123</sup> has put it, the house with a view. It is a house, but also in the broadest meaning of the word, any type of building capable of “looking” as much as possible at the surrounding landscape; it is a building where the “terrace” is a primary element. This ideology of the “vision of nature” has played a pivotal role in the development of modern architecture and it still influences our contemporary way of assessing its legacy, but it requires of course an adjustment to the change of setup.

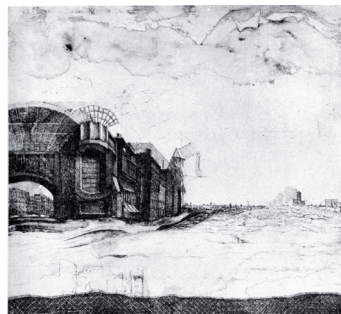
In recent times a different approach has come to light,

121. Gilles Clément, *Manifeste du Tiers paysage* (Paris: Éditions Sujet/Objet, 2004).

122. Manuel Gausa, “Naturalartificial,” in *Diccionario Metapolis de la Arquitectura Avanzada*, cit., pp. 423-426.

123. Carlos Martí Arís, “La casa binuclear según Marcel Breuer: el patio recobrado,” *DPA: Documents de Projectes d'Arquitectura*, 13 (1997): 46-51.

Peter Ackermann,  
Street in a vast landscape, 1974





Zaccaria Betti,  
Descrizione di un meraviglioso ponte  
naturale nei monti veronesi (Verona, 1766)

124. This is how countryside has been defined in a recent issue of the architectural magazine *Casabella* where a section bears this title. See the introductory text by Marco Biraghi, "Architettura e vita rustica." cit. See also Dominic Stevens, *Rural* (Annaghmacconway: Mermaid Turbulence, 2007).

an approach involving a more tactile and geography-based "inclusion" of nature. We have witnessed the planning and implementation of architectures integrating natural forms by favoring its geographical, and more specifically, its topographical components. Within this framework it is possible to clearly appreciate the hybrid and "naturalartificial" position we have mentioned beforehand. We are referring to buildings like the FOA's or the Dutch MVRDV's, just to mention a few examples.

It is a very interesting way of managing the architectural side of a project but one that calls for a rigorous control over the formal components involved, otherwise the risk of bumping into a mere cosmetic operation is great.

With regard to what we have said so far, it must be further noticed as these architectures tend to relate to the landscape by favoring the natural component. Geography, orography, topography are elements selected by that larger and more complex setup that is the city landscape. Further research should be carried out to include what is left out by this way of planning. Nominally, we are referring to that "other half of architecture,"<sup>124</sup> that is the country architecture.

Obviously all the farming-based transformation of the territory should be revisited and reconsidered both as a transformation carrying its own signs and language – and this is especially Pierre Donadieu's favorite theme – and as a combination of "cultivation" and "construction," or, in special cases, as its unique way of liaising with the infrastructures in place.

## 8 | After sacred space

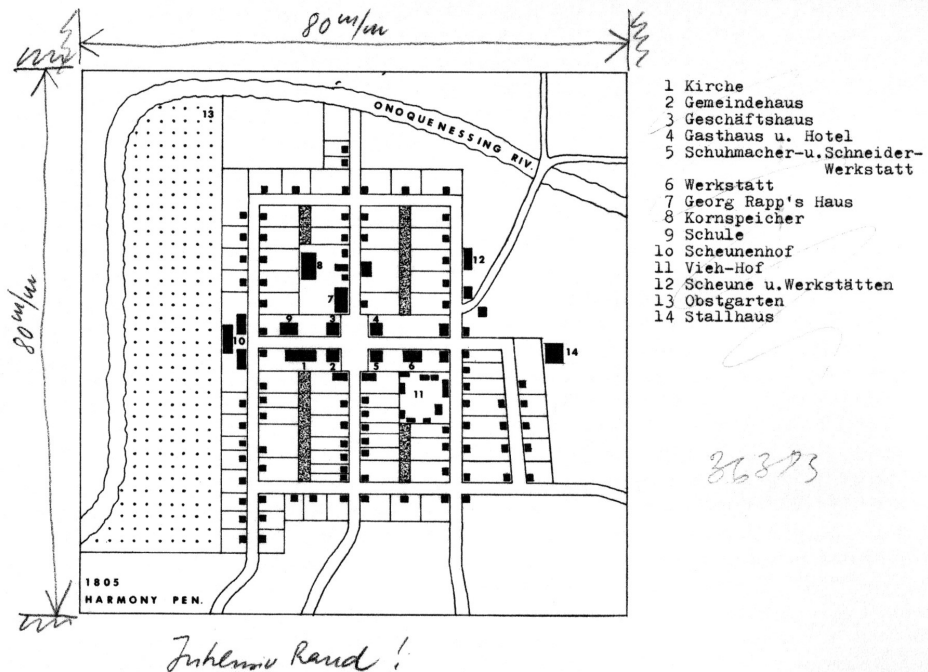
When it comes to discuss the “sacred” component in architecture or, even better, when it comes to the exploration of the meaning that sacred architecture can take on in a contemporary context, we are inevitably bound to address a more general and complex theme, that is to say the secularization of contemporary culture. The question can be addressed in no other terms. An attitude to the contrary would otherwise confine the problem of religion in architecture within too precise boundaries and these limitations would prevent the appreciation of seminal phenomena. Once again, therefore, when exploring themes connected with the architectural project, it is necessary to leave the path leading to problem separation behind us, and stubbornly focus instead on an all-encompassing dimension. Actually, although it seems far more natural to adopt an analytical standpoint, this attitude proves ultimately fruitless and counter-productive. Considering the sacred in architecture as a special type of architecture, with its special occurrences, its special dynamics and its own peculiarities would be myopic indeed. The roots of such a myopic



approach to the problem lie in the all too regrettable-ly widespread notion that architecture – and consequently architectural planning – can be separated into a set of special subject matters and, as a consequence, religious architecture exists to the extend in which business-minded architecture or hospital-minded architecture do exist.

But by now we know better. We know that the reality and practice of the project is a cultural setting and a frame of mind where absolute and essential meanings are of great consequence, to the point of making any attempt at atomization an useless oversimplification. A millennium-long tradition is warning

Oswald and Liselotte Ungers,  
Plan of the Rappite community of Harmony,  
Pennsylvania



enough: Alberti, Bernini, Aalto o Mies were great architects *tout court* and not superb specialists in single building categories; they worked on the uniqueness and wholeness of the project experience and did not go out of their ways to break it down into its myriad of components. Since it does not exist a special way of practicing and living the project experience according to the different functional categories, it is likewise a futile exercise the attempt at isolating and circumscribing sacred or religious architecture as a special category or preserve. If anything, when dealing with religion and with all that is religion- related, the mere mention of special categories and settings would be a blatant contradiction in terms and an astounding one at that.

But, without taking an immediate plunge in the general themes repeatedly anticipated, let us put to test the very idea of religious architecture as a defined category. We soon realize how difficult it is to set religious boundaries and we are bound to notice that the contamination between sacred and profane is a widespread occurrence. It comes to mind the extraordinary work of Giuliano da Sangallo in Poggio a Caiano's Villa Medici, where, thanks to a revolutionary intuition, the dome, a paradigmatic feature in religious architecture, is transposed into the heart of domestic architecture, a suburban villa. That said, it is almost impossible to not mention Palladio who famously accomplished an equally spectacular operation of "estrangement" in his Rotonda. But Palladio worked on this theme in an even more complex

125. Joseph Rykwert, "Le tre chiese veneziane." *Domus*, 609, September 1980: 28-31.

fashion, by operating a sophisticated incorporation of sacred and profane in the enigmatic structure of the front entrances of his Venetian churches. It has been acknowledged how the facades with the double timpani are nothing else than the synopsis between the superimposed representation of house of God and house of man.<sup>125</sup>

We can also mention the Sacred Mountains, the enshrined formalization of the landscape, the sacred dimensions of domestic architecture, vastly highlighted by a wealth of studies that cannot be included here. Finally, the city itself, the ultimate act of construction was not, as Rykwert has proved, a complex sacred setting, however supported it was by solemn

Le Corbusier, Ronchamp church, 1952



rites of founding: “the ancient Roman citizen knew that the *cardo* he was walking along was parallel to the axis around which the sun rotated, and he also knew that he was actually following the course of the sun when he went along the *decumanus*; he was able to decode, thanks to Rome’s civic institutions, the meaning and the workings of the cosmos and this belief made him feel intimately part of it. We modern people have lost this beautiful confidence in the way our world works...”<sup>126</sup>

It is easy to understand now, in the light of these examples, how pointless and dangerous it is to consider religious architecture a detachable event, something involving religious buildings only, and something closely and invariably connected to specific religious purposes like liturgical rituals. In the same way in which a good project for a school cannot be the result of the deductive application of functional parameters, the project for a church cannot come out of the mere application of liturgical rules, nor does it exist a way of planning the sacred that is different from other ways of planning. That is simply not what Le Corbusier did in Ronchamp or Bramante in Saint Peter’s or Richard Meier in Rome.

But back to the main theme: the religious imprinting on architecture in its entirety and its involvement in the general process of secularization. It is certainly not this the place to address themes of such a magnitude. We simply want to refer to a cultural phenomenon, a notorious one, the increasing loss of the sacredness in our culture. It is a matter of fact that,

126. Joseph Rykwert, *The Idea of Town* (London: Faber & Faber, 1976), pp. 261-262.



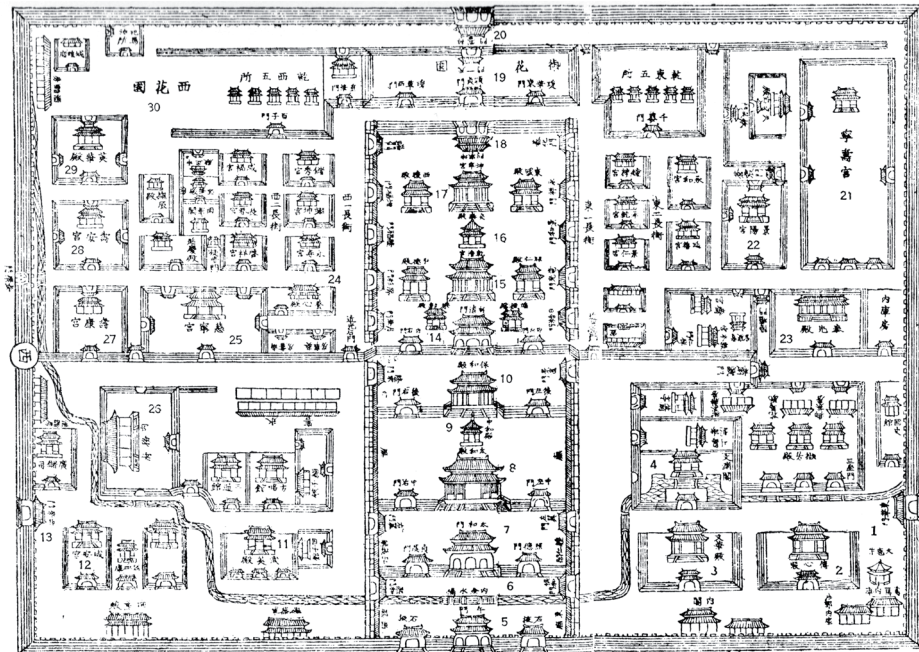
127. Vittorio Gregotti, *Il territorio dell'architettura* (Milan: Feltrinelli, 1966).

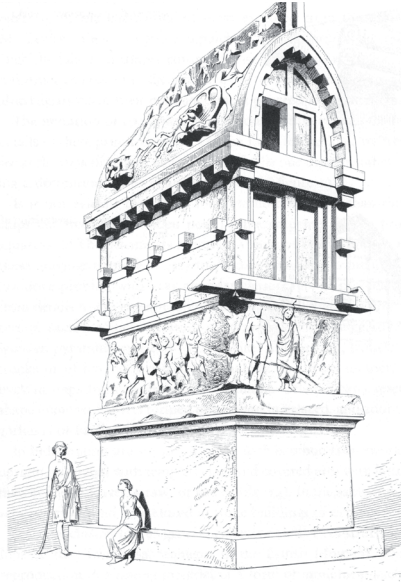
128. Edmund Husserl, *Die Krisis der europäischen Wissenschaften und die transzendente Phänomenologie* (Haag: M. Nijhoff, 1954); English translation as *The crisis of European sciences and transcendental phenomenology; an introduction to phenomenological philosophy* (Evanston: Northwestern University Press, 1970).

under the influence of the positivistic thought and the technological revolution our cultural mindset is more and more secular and laic and less and less sacred and religious. It is also evident how this situation is mirrored by architecture. We bear witness to a deep loss of sacredness in all the architecture. As Vittorio Gregotti aptly reminds us, nowadays any recently constructed buildings will never be able to represent for the community what a cathedral used to represent for its society.<sup>127</sup>

All of this, as we have already mentioned, is nothing else than that part of that process defined with exceptional insight by Edmund Husserl<sup>128</sup> as increasing “instrumentalization of culture,” a theory further developed

Plan for the Forbidden City of Beijing





Eugène Emmanuel Viollet-le-Duc,  
Stone sarcophagus in imitation of wood  
construction

by Martin Heidegger, among others. On the basis of the analysis of these phenomenological thinkers, an uninterrupted process of scientification of culture pushes man away from the symbolic and cosmologic representation of the world and opens the way to a representation channeled and coated in instruments and tools. The sky, the human body, the city, the nature are now reduced to facts, uses and functions: they are devoid of any transcendental meaning. The representation focuses more and more on the instrumental dimension and less and less on transcendental facts.

Architecture is leaving and breathing this transition and it is a process undergone by the whole of the architectural field and cannot be restricted to reli-

gious buildings. The business of building of any kind is more and more an action carrying out a specific functional agenda. It is a matter of targeting objective and calculated needs by carefully using materials in the most economically profitable way. It is a matter of deterministically solving quantitative problems, measurable and calculable. The vision and construction of a space, a building, a city is more and more a pragmatic and instrumental action and the direct consequence of analysis and acts of will. A road, just to make an already cited example, is today a transport infrastructure and certainly not that cosmologic symbol that reassured the ancient Roman citizen, providing him with something else and something more than a practical function.

The increasingly invasive presence of the functional and quantitative dimensions of the project such as the Certification of Quality, the cost-benefit analysis, the notion of “feasibility” are nothing else than further developments of these positivistic ideas.

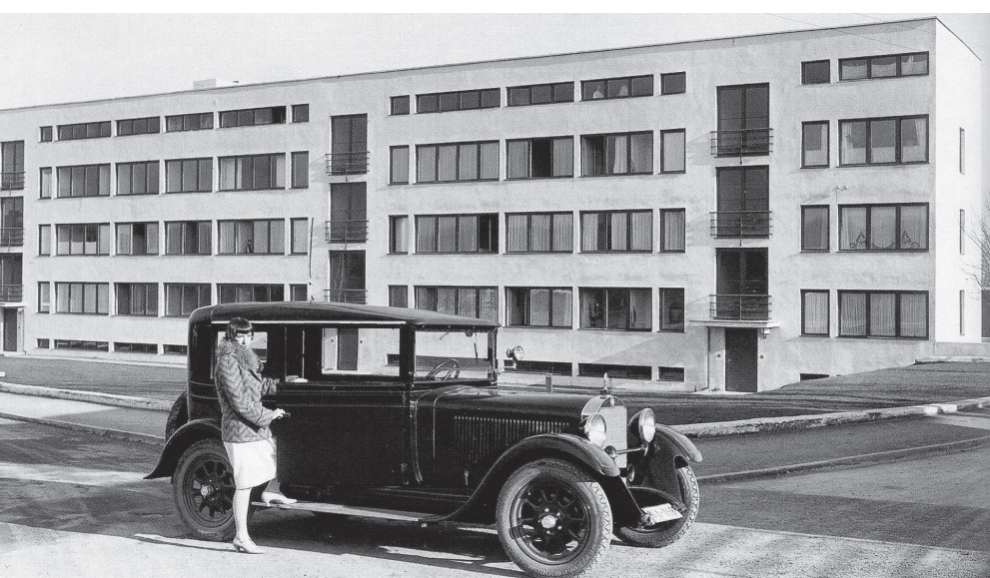
The sacred in architecture, however, remains as a latent dimension: we can still rediscover and pursue it although it has a reduced presence within society. We cannot erase its traces, as Gianni Vattimo admonishes, because it is simply impossible. We cannot reduce it to a category, type or function; we cannot reduce it to the problematic relation between architecture and religion, nor can we consider it the spatial accommodation of a liturgy: it would simply not do; it is not a suggestion we could warmly welcome and hope for. It was not what the masters used to do.

## 9 | Unwooden modern architecture

In its heroic epoch modern architecture “dressed in uniform.” This uniform was composed of squared volumes, windows with thin metal frames and, especially, white plaster. Its being a uniform is demonstrated by our direct experience: modern “prototypes” are still nowadays easy identifiable as they are visually detached from the mass, increasingly more hypereal, of the “plasticized” contemporary buildings. Modern prototypes are equally detached, visually, from the built body of historical cities.

The deliberate assumption of a uniform for Modern Movement buildings began in the 20s. It might appear contradictory for an avant-garde movement but it was part of the propaganda and of its implicit orthodoxy. Materials used, as we said, were very limited: iron, glass, concrete and walls inescapably white-plastered. The Stuttgart 1927 Exposition marks what was probably the most eloquent celebration of this trend. To disseminate the new architecture and to confront the experiences of the newly born avant garde, a neighborhood was built from scratch, the glorious Weissenhof, which is indeed all white (*weissen*) as in its very name.





Ludwig Mies van der Rohe,  
Residential unit at Weissenhof Siedlung,  
Stuttgart 1927

129. Wigley, *White Walls, Designer  
Dresses*, cit.

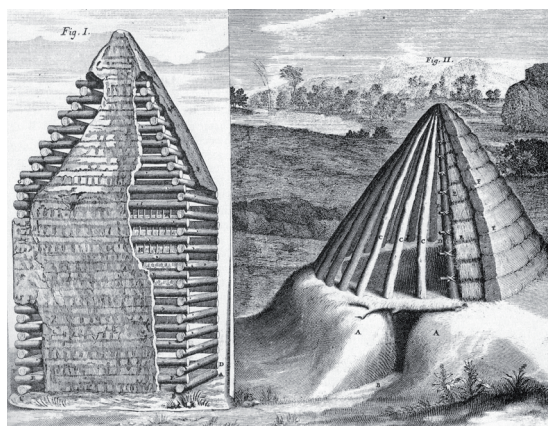
Of course we might note that similar circumstances happened otherwise, like for example in the Hansaviertel in Berlin, well-known for the residential unit by Alvar Aalto, an architect doubly bound to color white. Furthermore, it might be objected that the white of Stuttgart was, after all, just the same of the purism of Le Corbusier and Ozenfant in those same years. All this is true, but what I want to stress is that never as much as in that neighborhood in Stuttgart forms, typologies, volumes - even substantially heterogeneous - will be accepted, just because their common “modern” belonging was guaranteed by the uniform white. As Mark Wigley has clearly demonstrated<sup>129</sup> it was a uniform consciously adopted, according to the logic of fashion world. Architects at that time thought of the exterior aspect of architecture as a fashion designer would have thought of a dress. Indeed architecture and fashion were in that epoch much closer, in strategies, of what we are used to think. This nearness was almost equal to that, much well known and amply accepted, that existed between Art Nouveau architects

and fashion designers.

The notorious image of the wife of Henry van de Velde dressing a cloth designed by his husband, demonstrates an undistinguished approach to architecture and fashion. And van de Velde's attitude was not different from the way in which architects so diverse as Taut, Oud or Le Corbusier will unvaryingly "dress" their houses at the *Weissenhof*.

All this will appear even more peculiar if we think of Mies van der Rohe, constrained in Stuttgart to the white plaster, and not to build, as he was accustomed to, with red bricks or iron and glass. Yet the choice of white cannot strike us: it is a sign of perfection, of cleanness, of abstraction, all fundamentals of the supposed universality of the new architecture.

The absence of color was useful to avoid any characterization of a product which was willingly industrial, and therefore standardized, that had little to grant to localisms, contextualization, circumstantial peculiarities. The house was like a machine, according to the well-known slogan, and the positivistic faith on industrial production, in the minds of those architects, had overcome the uncertainties which, some decades



Claude Perrault, Huts of the Colchians

earlier, John Ruskin had expressed. Ruskin contrasted smooth surfaces since they were, for him, signs not of progress but of the loss of craftsmanship culture. Actually for Ruskin the issue was even more serious: industrial perfection was the execrable result of the alienation of massified workmen to whom it was certainly to prefer Medieval ones. At his point it is useless to add that Ruskin magnified the qualities of stone and wood.

Under the light of these observations we can better understand how wood was left out of the materials of modern architecture: wood, indeed, for its own essence rejects the reproducibility of industrial products while exposes imperfections and peculiarities. These can hardly be accepted, if not as failures, by those who claims and industrial *status* for architecture. Furthermore, wood is one of the most natural building materials: it confers a nearness to nature in its most vivid form, the vegetal one. This is something that no other material owns. Veining, knots, resin coming out of it, its very movement over time, even its own multiform decay make wood as an “alive” material. Also for these aspects wood had become the vehicle of a Romanticism that excited 19<sup>th</sup> century architects. Yet for the same reasons it was banned by Modern Movement.

But it is not only the usual opposition between tradition and modernity. To really understand why all this happened we must remember that the pioneers of modern movement were the cultural heirs of those “first moderns”<sup>130</sup> which at the end of 17<sup>th</sup> century had

130. Rykwert, *The First Moderns*, cit.; Kenneth Frampton, *Modern Architecture: a critical history* (London: Thames & Hudson, 1980).

conceived an architecture, not at all natural, an *architectura artificialis*, as it has been defined.<sup>131</sup>

Among them a central role was played by Claude Perrault, the architect of the Louvre facade, who had theorized an architectural beauty derived from the “perfection of execution.” He had rightly grasped and explained that the absolute beauty of architecture, derived also from the user’s recognition within buildings of parts and elements constructed with perfection. This intuition of Perrault, shared at that time by Wren, has had a lasting follow-up. It is rightly, very common in contemporary discourse on building and designs.

Wood certainly is not apt to guarantee this kind of beauty. Wood rather guarantees, as we have already noted, the peculiarity of each piece, according to the *varietas* of nature that Leon Battista Alberti so much evoked. Modern architects, and especially the first among them, who, as is notorious, are mainly mittel-European were the heirs of this itinerary of architectural thought. An itinerary that started at the end of 17<sup>th</sup> century and reinforced by industrial revolution, had produced that extraordinary experience which we call Modern Movement.

In their view not only wood was excluded, but they did not attribute any meaning to the metaphorical outcome of the topic - i.e. the theme of the natural origin of architecture, so eloquently expressed by wood. It is not by chance, indeed, that for not few theorists, the mythical origin of architecture has been defined in realms where wood or even trees were the first architecture. It has been so for the Abbè Laugier, whose primitive

131. Manfredo Tafuri, “*Architectura artificialis*: Claude Perrault, Christopher Wren e il dibattito sul linguaggio architettonico,” in *Barocco Europeo, Barocco Italiano, Barocco Salentino*, Atti del Congresso Internazionale sul barocco (Lecce: Centro di Studi Salentini, 1971), pp. 375-398.

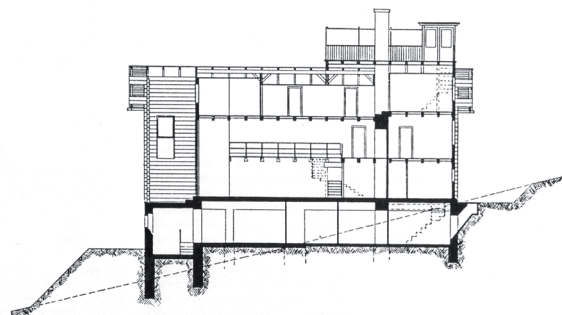
hut had trees as pillars and knotty trunks as beams. The same happened in the case of James Hall, who, proposed as the “origin” of Gothic architecture the act of tying two trees, which produced the ogival form emblematic of that style. We might mention also Gottfried Semper, the great German theorist, who deeply focused on the polychromy of buildings, and proposed, as archetype, a carabian hut, made of tied bamboos. Again a tied vegetal element probably derived by his close study of Greek temples, which are the stone version of wood buildings.<sup>132</sup>

Probably the most powerful of these stories, all targeted to express the natural origin of architecture, is still nowadays that of Viollet le Duc. For him, too, the primitive hut was made essentially of wood and again it was a very rough wood, almost “alive:” in one word, rustic. And this leads us to consider another important aspect of the question, very common in every-day architectural discourse when wood is considered among building materials. To this regard the *scena rustica* by Serlio is a meaningful case, since it selects mostly trees and wooden elements to convey the idea of rusticity. Yet another modern tradition, to use Francesco Dal Co’s words, certainly exists.<sup>133</sup> It is a tradition that has dated wood almost secretly. To this respect it is striking that even Walter Gropius, Bauhaus’ director and guru of rationalism, in 1922 had conceived a building which is nothing but a wooden lodge. I refer to the Blockhaus Sommerfeld built in Berlin together with Adolf Meyer.<sup>134</sup> It is not by chance that this building was censored in the official biography of Gropius, written by Giedi-

132. See the fundamental Joseph Strzygowski, *Europas Machtkunst im Rahmen des Erdkreises* (Wien: Wiener Verlagsgesellschaft, 1941).

133. Francesco Dal Co, “L’invenzione di una diversa tradizione moderna.” *Casabella*, 725, september 2004: 5-11.

134. Rykwert, *On Adam’s House in Paradise*, cit., pp. 25-29.



Adolf Loos, Section, Kuhner house

on. But it is not just an episode, otherwise justifiable given the particular client, being Sommerfeld a wood dealer. Indeed several years later, when emigrated to Boston, Gropius went back to his interests in wood and published a book on Villa Katsura<sup>135</sup> maybe the most famous wood construction ever built. Gropius therefore had an underlying interest in wood that probably was strengthened by the vision of American architecture, in which wood is more diffused than in Europe.

Particularly attractive for him must have been the work of architects like Downing, Richardson or Wheeler, just to mention some. These architects insisted to use only wood and – notable fact – to replicate with wood the stone decorations, inverting so that very vast phenomenon that had seen architecture built in wood to be later remade similarly but in stone as in the Greek temples. Gropius, then, together with Konrad Wachsmann at the MIT, made several experiments of wooden knots and joints. Also Wachsmann was not new to this interest for wood: in Berlin he had written a famous book about wood construction, the *Holzhausbau: Technik und Gestaltung*.<sup>136</sup>

135. Walter Gropius, Yasuhiro Ishimoto, Kenzo Tange, "Katsura": *Tradition and Creation in Japanese Architecture* (New Haven: Yale University Press, 1960).

136. *Holzhausbau: Technik und Gestaltung* (Berlin: Wasmuth, 1930).

Gropius and Wachsmann hardly were alone to reconquer wood within the core of modern architecture: indeed the already mentioned book on Villa Katsura was written by Gropius together with the young Kenzo Tange who later in Japan used the traditional techniques of wood. Both Tange and Gropius and Wachsmann, much as the Stick Style architects were interested by a very specific aspect of wood construction, the structure with small elements. And this is significant in connection with the idea of knot, to which Semper gave a special meaning. Indeed the structure with small elements exalted the role of knots. Were they the *kobari*, the small beams of *daibutso* style for Tange, or the *balloon frame* for Gropius and Wachsmann - and Richardson before them - in any case it is clear that, within the wider realm of wood construction, it is possible to single out a special part within which wood is tied in a Semperian way. It is a way of using wood very different from most American vernacular architecture: think about Greene & Greene and later Wright, very interested, on the contrary to the expressiveness of big wood structures. Both the two approaches are still part of our contemporary building philosophies. The pavilion made in Hyde Park by Alvaro Siza and Eduardo Souto De Moura is an interesting experiment half way between the two options: elements are bidimensional and construction relies on the grammar of joints as in *balloon frame*. Yet the dimensions of elements seek the expressive "out of scale" that had fascinated Wright, and Piranesi before him.

## 10 | Architectural Episteme

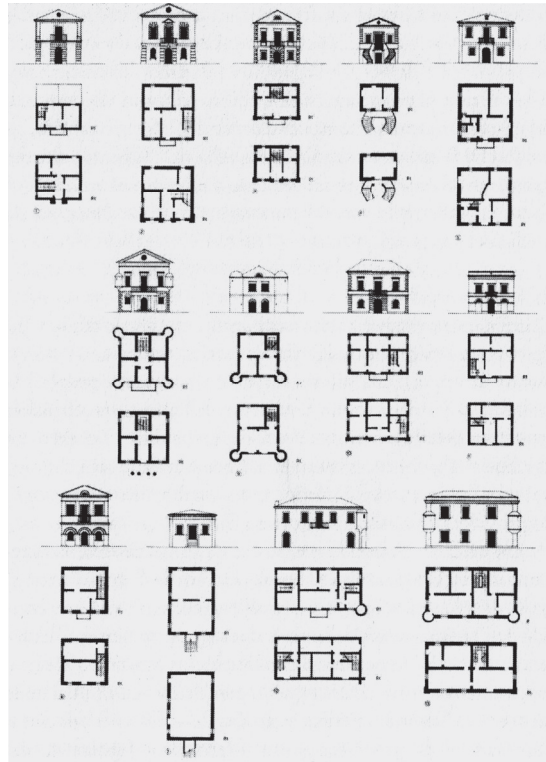
### A certain idea of construction

The renowned Milanese architect Giorgio Grassi published in 1967 his much praised, yet somewhat cryptic, book *La costruzione logica dell'architettura* (*The Logic Construction of Architecture*). The book follows of one year his fellow Aldo Rossi's book *The Architecture of the City*, published in 1966. Rossi's book had much wider popularity over time than Grassi's, partly as a consequence of Rossi's quite successful and international career as an architect, whose apex was the gain of the Pritzker Price. *The Architecture of the City* was warmly welcomed by Peter Eisenman, who included it in 1975 in the IUAS Book Series *Oppositions Books*. Translations in other languages followed, and so did Italian reeditions.

Grassi's career is remarkable and also international, yet not comparable to Rossi's. *The Logical Construction of Architecture* had so a parallel destiny. It became, over time, a famous book, again with a proportional link to Grassi's professional success. The book underwent a second edition, some foreign translations, yet not the English one so far. Rossi and Grassi share an identical cultural background, they taught



Giorgio Grassi,  
Houses in the Chieti countryside



and worked together at the beginning of their career and their contributions in writings, teaching and as architects are extremely close.

The two books are puzzling. They have often been considered as expression of the so-called *analisi urbana*, the renowned Italian contribution to the urban debate which actually started with Giulio Carlo Argan, and later was widely theorized by Rossi, Grassi, Aymonino, Polesello and others. And indeed, at least partly, both *L'architettura della città* and *La costruzione logica dell'architettura*, are books of ur-

ban analysis. Yet other texts more fully and devotedly indagate this topic, the most famous being *La città di Padova*, with contributions by the whole group. *The Architecture of the City* and *The Logical Construction of Architecture* indeed are texts that reveal a different aim and attitude. Besides the pragmatic focus on cities in term of typology and morphology, they aim at establishing a theory and, to do so, they show a clear concern for the tradition of treatises and handbooks. This trend has been pointed out by Ignaci Solà-Morales. So he writes: “The theoretical concern of Italian neorationalists has also a storiographic component, identifiable in the renewed interest for theoretical efforts (treatises and handbooks)... Le Muet, Viollet-le-Duc, Tessenow or Hilberseimer for Giorgio Grassi, Boullée, Palladio or Loos for Aldo Rossi.”<sup>137</sup> But theirs is not a mere “storiographic” stance. The two books are a compound attempt to establish a systematic theory based on logical process. Tafuri notes how they try “to assume rational criteria of description, classification and manipulation of the constant laws of architecture in order to ground logical and unitary methods of analysis and design.”<sup>138</sup> From which comes the enthusiasm for positivistic studies on houses for Grassi and on cities for Rossi. And indeed the two books aim at a logical understanding of the city in the case of Rossi and of buildings in the case of Grassi.

Grassi more rigorously dwells upon rationalism and analytical method and consequently digs deeply in the tradition of handbooks. His conception of

137. It has been pointed out by several people. See for example Ignasi de Solà-Morales, “Neorationalism and Figuration,” *Architectural Design* 54, n. 5-6, 1984.

138. Manfredo Tafuri, *Teorie e storia dell'architettura* (Bari: Laterza, 1968), p. 190. See also Baukuh, *Due saggi sull'architettura* (Genova: Sagep Editori, 2012).

architectural design is based on the idea of “logical construction.” Despite the fact that he will wait the second edition to acknowledge Rudolf Carnap, the reference it is quite manifest from the very title. *The logical construction of architecture* refers to *The logical construction of the world* written in 1928 by the German philosopher.

Yet Grassi’s attitude not completely follows Carnap’s more empiricist agenda. Grassi rather assumes the act of construction in a more traditional line that goes from Descartes to Kant’s “construction of a concept.”<sup>139</sup> The process of knowledge of architecture for Grassi makes no difference between analysis and project: it is always based on concepts and their construction. To this respect it seems likewise that Grassi has been influenced by the book that is considered the cornerstone of “constructionism,” *Les mots et les choses* by Michel Foucault, which indeed was published in 1966, one year before the *Costruzione logica*.<sup>140</sup> Yet, again, no explicit reference to Foucault is declared by Grassi.

In this kantian refusal of experience<sup>141</sup> the two Milanese masters depart from the widespread phenomenological sympathy that had deeply influenced the other important part of the school, whose main exponent is Vittorio Gregotti. Kant’s schematism is, after all, quite clearly behind the idea of type in the abstract and conceptual understanding of Grassi and, with a slightly less extent, of Rossi. So writes Grassi dealing with the relation between scheme and type: “But the scheme as I have already noted is also

139. See David Rapoport Lachterman, “Projection, Construction, and the idea of Modernity” in *The Ethics of Geometry. A Genealogy of Modernity* (New York: Routledge, 1999), pp. 1-6.

140. Maurizio Ferraris, *Manifesto del nuovo realismo* (Bari: Laterza, 2012), English translation as *Manifest of New Realism* (New York: SUNY Press, 2014).

141. For the refusal of experience and the so-called “logical constructionism” in architecture see Alan Colquhoun, “Rationalism: A Philosophical Concept in Architecture,” in *Modernity and the Classical Tradition. Architectural Essays 1980-1997* (Cambridge, Mass.: MIT Press, 1989), pp. 57-87.

a representation of the type, the representation of a precise character of the type ... seen as against the classification of which the scheme represent a class, a gender. It is therefore something very inherent to architecture and particularly to its theoretical definition ... based on the idea that architecture is meant as an analytical fact. From this derives the theoretical meaning of the scheme...”<sup>142</sup>

142. Giorgio Grassi, *La costruzione logica dell'architettura* (Padova: Marsilio, 1967), p. 73, my translation.

### Design made easy

The idea of construction and of logical construction, with the implications so far delineated, finds a complex realm in the notion of handbook for architecture. Not by chance, as we have seen, the topic is central in Grassi who analyses amply architectural handbooks in his *La costruzione logica dell'architettura*. He even wrote in the preface of the second edition that this book was originally meant to be an handbook itself. Handbook is, literally, a book that can be hold by hands – i.e. easy to transport and of limited dimensions. We might marginally note that indeed architectural handbooks seldom meet these requirements: they are big, thick and therefore somewhat heavy. It is, indeed, not customary to bring them on construction sites.

Their being handy implies the substantial consequence that handbooks are also easy and fast to consult and from this derives their nature as synthetic, clear, simple, didascalical, pedagogic, divulgative. Particularly the notion of simplicity, together with that

143. To this respect handbooks titles are symptomatic:

Giovanni Branca, *Manuale di architettura cioè breve e risoluta pratica in sei libri* (Ascoli: Braun John, 1629); Costanzo Amichevoli, *Architettura civile ridotta a metodo facile e breve* (Terni: Arnazzini, 1676); Antonio Cantalupi, *Istituzioni pratiche elementari sull'arte di costruire le fabbriche civili*, Voll. 2 (Milano: Tipografia Domenico Salvi e C., 1862); Giuseppe Antolini, *Idee elementari di architettura civile per le scuole di disegno* (Bologna: Marsigli, 1813); Giuseppe Antonio Borgnis, *Traité élémentaire de construction appliquée à l'architecture civile* (Bruxelles: Meline, Cans et compagnie, 1840); Charles Normand, *Le Vignole des ouvriers ou methode facile pour tracer les cinq ordres d'architecture* (Paris, 1828); Cimbri Gelati, *Nozioni pratiche ed artistiche di architettura* (Torino: Pasta, 1900); Archimede Sacchi, *Architettura pratica, le abitazioni* (Milano, 1874).

of easiness, are embedded in the idea of handbook and have characterized this publications over time.<sup>143</sup> Indeed the two notions of “architecture simple as far as it is theorized” and “simple on its own” are full of implications beyond the handbook topic. Yet this idea of simplicity has had a pragmatic undertone and only partly it has pursued those deeper meanings that might be achieved. To this respect we might merely think of what has been simplicity, not only in the notable Quatremère de Quincy’s definition, but also in architects like Loos or Tessenow, Oud or Laugier, or, maybe more remarkably, Mies Van der Rohe. It is important to note also that, in architectural handbooks, clarity, and therefore rapidity of access, are also the pretext to overturn the traditional relationship between text and image so that often we face pages where the “image talks” and the “text paints.” Clarity, as we said, yet with an educational aim: handbooks indeed are the tools by means of which a knowledge is assembled and officially becomes public. They are then books to instruct and that ought to make architecture not only simple and easy to make but also easy to learn.

Handbooks are texts, or working tools for architects and designers, but their didactic dimension is more graspable if we think of the role they have played as popularizes of *arts and metieres* in order to make universal those labors that belonged to a limited group of craftsmen or specialists, sometimes even secretly. To this respect the *Encyclopedie* by Diderot and D’Alambert, true universal and ultimate handbook,

is a symptomatic example. Indeed the link between the tension towards emancipation and the production of manuals has been proved.<sup>144</sup> Similarly the production of architectural handbooks is more intense during periods of building booms.<sup>145</sup> A relevant case is the Italian *Manuale dell'Architetto*, written by the neorealist architect Mario Ridolfi, financed by the United States Information Service and distributed in 40.000 copies to Italian architects in the After War. Therefore, as we said, the expected reader of handbooks is the restricted circle of people professionally involved with construction. Yet, under a different understanding, the auspicious user is the common man, anyone that can benefit of the idea of universal

144. Carlo Guenzi, Introduction to *L'arte di edificare, manuali in Italia 1750-1950*

(Milan: BE-MA, 1981): "the more the historical period during which handbooks are published express a tension to social progress the more handbooks are popular especially within schools," my translation.

145. Georges Teyssot, preface to Emile Kauffman, *Tre architetti rivoluzionari* (Milan: Franco Angeli, 1979), Italian translation of *Three Revolutionary Architects*: "the oscillations of literary production are proportional and have the same frequency of oscillations of building activity," my translation.

Colin Rowe, Peter Carl, Judith Di Maio,  
Steven Peterson, Proposal for  
*Roma Interrotta* exhibition, 1978





146. Sebastiano Serlio, *Regole generali di architettura* (Venice: Marcolini 1584); English Translation by V. Hart and P. Hicks as *Sebastiano Serlio on architecture* (New Haven and London: Yale University Press, 1999).

knowledge.

This contradictory condition mirrors a circumstance which has been present in architecture for a long time. It is not by chance that it deliberately comes out in the most handbookish of the treatises, Sebastiano Serlio's books. So he writes in the introduction to the 4th book of his treatise: "havend'io apparecchiato alcune regole nell'architettura, presupponendo che non per gli elevati ingegni l'habbiano ad intendere ma ogni mediocre ancora ne possa essere capace, secondo che più o meno sarà egli a tal arte inclinato."<sup>146</sup> This "universally available architecture," ready for anyone, is freed from the constraints of the profession. And in this case handbooks assume the aspect

Ludwig Mies van der Rohe  
with a model of the Crown Hall



of pedagogic-popular literature.<sup>147</sup> Architecture is so out of purposiveness and it is meant to be “an appropriate diversion for gentlemen and scholars.”<sup>148</sup>

Architecture so can show one of his facet: its ludic dimension, on which we have already dwelled upon shortly in this book. How play is part of intellectual activity has been notoriously explained by Huizinga in his *homo ludens*, to whom, not by chance, the Situationists deliberately referred to in many of their theories and performances related to architecture. All this is hardly surprising since psychologists, since Piaget’s time, if not before, have stated the play as cognitive and learning activity. Incidentally it is interesting in the context of this study that Piaget connects play with the idea of construction, in the Cartesian-Kant line. The very title of his book hints at the “child’s construction of the world.”

It is interesting to see what Étienne Souriau had declared: “Raisonner c’est jouer avec des formes, présentes dans l’être des ideations typiques...”<sup>149</sup>

As far as *architector ludens* is concerned, many occurrences come to mind: on a pragmatic level the play of the nine squares of John Hejduck; and, on a more metaphysical level, Le Corbusier’s notorious say: “L’architecture est le jeu savant, correct et magnifique des volumes assembles sous la lumière.” But we might also mention the importance that the *Froebelian gifts* have had on Frank Lloyd Wright, and Hermann Finsterlin’s toys.<sup>150</sup> And it is certainly to mention Louis Ambroise Dubut, pupil of Ledoux, who in 1803 publishes an *Architecture civile essen-*

147. To this regard see Claudio Giovannini, “Pedagogia popolare nei manuali Hoepli.” *Studi storici*, n. 1, 1980. Symptomatic of this trend are the titles of several handbooks. See for example Charles Et. Briseux, *L’architecture moderne ou l’art de bâtir pour toutes sortes de personnes* (Paris: Claude Jombert, 1728).

148. See Frederick Hard, introduction to Henry Wotton, *The Elements of Architecture* (London, 1624) reprint (Charlottesville: The University Press of Virginia, 1968), p. LXVII. 149. Étienne Souriau, *Pensée vivante et perfection formelle* (Paris: Hachette, 1925), p. 248.

149. Étienne Souriau, *Pensée vivante et perfection formelle* (Paris: Hachette, 1925), p. 248.

150. For a general treatment see Juliet Kinchin, Aidan O’Connor, editors, *Century of the Child: Growing by Design, 1900-2000*, (New York: MOMA, 2012), catalogue of the exhibition at MoMA, July 29 - November 5, 2012.



tially conceived as *Jeu de cubes*.

It is a leisure time activity and to this regard it comes to mind Aldo van Eyck's say: "To be an architect you must be a bit of boy-scout." Slightly different is the idea of architecture as *bricolage* which is also within these definitions. It reminds of Levi-Strauss notion of *bricoleur*.

Two extreme positions are therefore internal to the notion of handbook:

- that of metaphor of reality: according to this the handbook tends to be exhaustive, onniconprehensive, in a certain sense tends to crystallize, photograph pieces of the reality to which it tries to identify.<sup>151</sup>

- to the opposite end stands the idea of handbook as an instrument that is made to be surpassed, continuously transgressed, like language that exists only because is incessantly transgressed by use. Notions to be recalled, to this respect are those of grid, scheme, rough material, material "moving from which" design begins. We shall see how Bruno Zevi, using Umberto Eco's reflections will develop this theme.

Therefore the relationship between data and design, as it takes place in the handbook, is tied to another relation, which is also involved in the notion of manual, that between norm and invention<sup>152</sup> or rule and exception for in this scenery design is a procedure that is brought about by the collision between the handbook (norm) and architect (inventor).

In this case it is appropriate to take the discipline as a domain, according to the definition by Foucault<sup>153</sup> who reckons as essential the issue of invention.

151. It is impossible not to think of Borges for his continuous concern for the theme of a reality which is mirrored, metaphorized, multiplied. For example, as far as library and mirror are concerned, see the two novels: "The Library of Babel" and "Tlon, Uqbar, orbis tertius" in: Jorge Louis Borges, *Ficciones* (Buenos Aires: Sur, 1944); English translation as *Fictions* (New York: Grove Press, 1962).

152. "Handbooks search constantly their functionality in the dialectic of all architectural literature between norm and invention." Luciana Finelli, Luciano Patetta, "Manualistica," in Paolo Portoghesi, editor, *Dizionario Enciclopedico di Architettura e Urbanistica* (Rome: Istituto Editoriale Romano, 1968), pp. 483-4, my translation.

153. Michel Foucault, *L'ordre du discours* (Paris: Gallimard, 1971); English translation as "Orders of Discourse," translated by R. Swyer, *Social Science Information*, 10/2, April 1977: "Une discipline se définit par un domaine d'objets, un ensemble de médés, un corps de propositions considérées comme vraies, un jeu de règles et de définitions, de techniques et d'instruments: et tout ceci constitue une sorte de système anonyme à la disposition de qui veut ou peut s'en servir sans que son sens ou sa validité soient liés à celui qui a pu en être l'inventeur."

## Describing and classifying architecture

Treatises, or treatise-handbooks according to what discussed above, are therefore theoretical tools that establish a rather varied set of relations with architecture. They mirror it, reproduce it, outline it, define it, generalize it, institutionalize it, explain it. The co-presence of so many theoretical operations constitute the complexity of manualistic knowledge. But if we want now to trace an “archaeology of manualistic knowledge” in the manner of Foucault we probably might affirm that the cognitive aim is certainly prior to the theoretical one and therefore the two procedures of analysis and observation are the starting points in the construction of this knowledge. Indeed in handbooks architecture before being ordered, classified, theorized and before being exemplified, it is described. After all, exemplification – the typical occurrence in handbooks - is an oriented description, and consequently is a more elaborated procedure than description for a pure didactic aim. Description is than the elementary procedure in the knowledge of architecture.<sup>154</sup> It is the initial part in the cognitive process. And, in this sense, it is also the basic step of the design process. Le Corbusier’s – or any other architect’s - sketches of existing buildings or places are, at the same time, descriptions as well as designs. At this point it is clear how a common methodic line ties together more complex works like treatises and handbooks on one hand and other texts on the other hand, which are aimed at the mere description of architecture. These descriptive texts, indeed, represent

154. With the meaning of basic and not as related to elements. See Vittorio Ugo, “Per una archeologia elementare dell’architettura,” in *Palermo: la memoria costruita*, cit. p. 192 and *I luoghi di Dedalo* (Bari: Dedalo, 1991): “In English there are two different terms: elementary and elemental, to define what is simple and to design what is related to elements,” my translation.

a huge part of architectural literature.

But what do we mean exactly by “descriptive texts”? We can assume that these are the texts where the descriptive aim is prevalent over the theoretical one. Therefore in this kind of texts descriptive concepts are preeminent over theoretical concepts. We refer for example to cornerstones of architectural literature such as *Palais, maisons et autres edifices modernes dessinés a Rome* di Percier e Fontaine or *Edifices de Rome moderne* of Letarouilly, or, more, to *Nuovi disegni dell’architettura e piante dei palazzi di Roma* by Falda or *Les plus excellents bâtimens de France* by Du Cerceau.

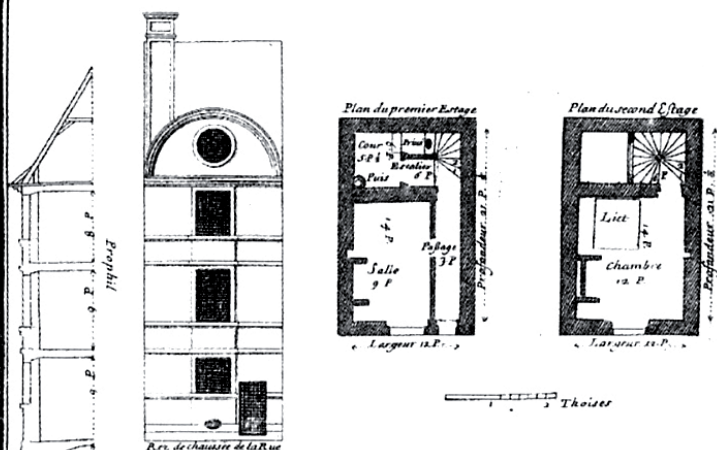
To focus on this kind of texts has been a primary concern of Giorgio Grassi, who devotes a chapter of his *La costruzione logica dell’architettura* to this topic. “Here I refer to all those works whose ordered documentation we owe to 19<sup>th</sup> century positivism. They have been constructed patiently with the modesty of medieval copyists and the passion of the naturalist.”<sup>155</sup>

One of the works that he describes as a pivotal example of this attitude is *Das Schweizerhaus* by Jakob Hunziker. In this text Grassi admires the rigor, the philology, the exhaustiveness. *Das Schweizerhaus* is structured with a rigorous grid. Buildings are grouped by parts of the territory. Houses are described according to two parameters: their combinations and their internal organization.

For example the *ratoromanische Haus* and the *Land-erhaus* are described first separately and then by confronting them. This is repeated for all the parameters

155. Grassi, *La costruzione logica dell’architettura*, cit. p. 42, my translation.

*Distribution de la premiere place, ayant de  
L'argeur 12 pieds, et de profondeur, depuis 21 pieds et demi  
à toute autre qui sera moindre que 25 pieds.*



En cette place premiere de douze pieds de largeur, sur vingt et vn  
pieds et demy de profondeur, la largeur se distribue en vne salle  
de 9 pieds, et vn passage de 3 pieds. la profondeur se diuise en la salle  
de quatorze pieds, et en vne cour de cinq pieds et demy de largeur; et le  
reste de la largeur sur toute cette profondeur, est employé en vn escalier  
qui aura 6 pieds en quarré, ou sous le rampant des marches sera fait le  
priue. Arrière des angles de la cour, joignant la Salle, est le puits. Pour la desce-  
nte de la caue, elle se fera au passage, par le moyen d'une trappe, tant en cette  
figure comme aux suivantes, iusques à la sixieme distributio de la 6<sup>e</sup> place.  
Pour le regard du 2<sup>e</sup> estage, la chambre occupera la largeur tant de la salle que  
du passage, et partant aura 12 pieds de largeur; et pour la profondeur, elle est  
reglée par celle de la Salle de dessous, qui est 14 pieds; le reste de ce plan ne differe  
point du 1<sup>er</sup>. Et quant sur cette mesme largeur d'edifice, la profondeur se trou-  
ueroit entre 21 pieds et demy, et 25, les mesures de la largeur demeurant en leur en-  
tier, il faudroit distribuer le surplus de la profondeur en la cour, et en la sale,  
selon le desir de celui qui bastiroit. Et auons trouue bon de declarer toutes  
les mesures des edifices, sur le discours particulier que nous auons fait de la  
structure d'un chacun; encore que nous les eussions marquées par chiffres sur  
les plans, pour plus grande instruction de ceux qui sont moins exercés en la  
connoissance des plans. Et pour le regard des hauteurs, le 1<sup>er</sup> estage aura 9 pi-  
sous solives, depuis laire de la Salle, et le païs du plancher; les solives compri-  
seront 8 pou. qui sera plus que suffisant sur vne si petite largeur. Dont  
toute la hauteur sera de 9 pi. 8 pou. laquelle estant departie en 18 marches, ce  
sera 6 pou. 5 lignes 2 tiers pour la hauteur de chacune; laquelle distribution  
suira aussi au second estage, lequel a 9 pieds de haut, comme le 1<sup>er</sup>. Le 3<sup>e</sup>  
estage a de hauteur 8 pi. sous solives, et 8 pou. de païs, compris les soli-  
ues et planchers. Cette hauteur de 8 pi. et 8 pou. estant distribuee en 16 mar-  
ches, nous donnera 6 pou. et demy de hauteur pour chacune, qui sont 2  
tiers de ligne, de plus que les autres marches; et partant leur difference est  
comme insensible. Au dessus seront greniers. Et d'autant que l'eschappée  
nécessaire pour l'escalier est empeschée par la hauteur qu'il faut donner  
au priue, on descendra de la cour au priue, par deux marches, dont vne  
sera dans la cour, et l'autre dans le priue, ayant chacune 9 pouces de  
hauteur.

considered.

Grassi's discourse goes on analyzing another work, *L'habitation umaine* by Charles Garnier and August Amman underlining how in this case the descriptive process takes place by successive approximations starting from a series of particulars and observations; this leads to an ideal type and not to a record of types. Grassi's enthusiasm for a knowledge which is methodically constructed by a taxonomy, betrays the influence he likewise received by Foucault's ideas on taxonomy.

But what is "to contextually describe different architectures" if not classifying them. It is indeed almost unavoidable that the sum of different descriptions or, better, the same type of description applied to different objects, brings about, even unwillingly, what normally is meant to be a "classification" or taxonomy. This happens because multiple descriptions hardly can avoid to use other gnoseological tools such as comparison and confront. Comparison is that peculiar link that happens to be established between the single descriptions, and make their final result much more than the mere sum.

Modern studies of anthropology have focused on classification, finally considering it as one of the basic actions in man's cognitive process. According to Michel Foucault classification can be achieved according to two different procedures: "method" and system.<sup>156</sup> Method consists in deducing differences and similarities starting from an element arbitrary chosen and, by exclusion, define the parameters to which refer.

156. Foucault, *Le mots et les choses*, cit.

System, on the contrary, consists in fixing *a priori* a parameter and classify the whole of the elements in relation to this parameter. A typical example of system in a classification of architecture is the *Manière de bien bastir* by Pierre Le Muet; it is the most popular handbook used in Paris between 17th and 18th centuries for the construction of row houses on the gothic plots of the city.

It is indeed a catalog of examples where the parameter is the width of the plot: for each width it provides three different solutions relevant to increasing length. The whole system is ordered by increasing widths. Significantly different is the criterion adopted for another handbook *L'architecture moderne ou l'art de batir pour toutes sortes de personnes* by Charles Briseux. This is a century older than Le Muet but it is very similar to it in terms of structure and topic: again row houses, again represented in plan, but the parameter is no longer the plan but its realistic form. In Le Muet plots were abstractly supposed to be perfectly regular, while in Briseux they are systematized as real cases, including, therefore, also irregular forms. Consequently it is again a system where a small difference in the parameter produces a completely different final outcome.

A totally different parameter - the more usual functional type - is indeed that assumed by David Leroy who, in the second edition of his *Ruines des plus beaux monuments de la Grece*, groups buildings as: temples, theatres ...etc., he draws them side by side, by groups, avoiding particular cases.<sup>157</sup>

157. Also Gabriel Pierre Martin Dumont, pupil of Soufflot, made a similar attempt - he only published two drawings in 1765. See Middleton-Watkin, *Architettura moderna*, cit., p. 30.

158. Étienne-Louis Boullée, *Architecture, essai sur l'art*, Textes réunis et présentés par Jean-Marie Pérouse de Montclos (Paris: Herman, 1968).

159. Jacques François Blondel, *Cours d'architecture* (Paris, 1771-1777), vol. 2, p. 229, italics mine.

Blondel, differently, in his *Cours d'architecture* classifies building using a totally different parameter, the character. Buildings undergo a double process: they are first grouped by functions and then by character. Prison as terrible, hospital as aseptic.. and so on. To this regard it is important to note that it is a different view that takes the appearance as primary and renounces to the abstraction of the type. Buildings are taken as they appear, according to their exterior sign. Boullée's definition of character is symptomatic: "I call character the effect that results from an object and causes a whatsoever feeling."<sup>158</sup> Similarly wrote Jacques François Blondel in 1749: "...all the different kind of production which belongs to architecture should carry the imprint of the particular intention of each building, each should possess a character that determines the general form and that declares the building for what it is..."<sup>159</sup>

The notion of character is, actually much more complex as related to architecture. What interests us is that character is here meant as "external appearance." Therefore it falls perfectly within the laws of similarity that Michel Foucault consider as the foundation of classical age. For Foucault the way knowledge was developed until the first half of 17th century was based to 4 forms of similarity and a final signature of this similarity. Character, to this respect, was a guarantee of similarity. This peculiar idea of character, based on external signs, landed in the realm of architecture from natural science. It had, as a by product, produced the discipline of physiognomy.

As Lavater within the discipline of natural signs classified animals according to their external tracts, in the same manner architects like Delafosse, or Blondel believed that buildings could express feelings by means of their appearance. This leads to extreme positions like that of Hubert De Superville who tried to establish a method to make buildings express feelings using anthropomorphic similarity in facades and decorations.

Yet Foucault believed that system of thinking underwent a radical change according to which similarity was superseded by identity and difference, measure and order. A rationalization, in other words, took place under the impact of Cartesian thinking, and the knowledge and confront of things happened by means of more universal parameters.

In architecture this is the case of the taxonomy proposed by Jean Nicolas Louis Durand of which we have already spoken in this study. From Durand's theory derives a trend to geometrical abstraction that is by no means totally opposite to this regard for exterior appearance of architecture.

The difference of his way of classifying architecture, as against what had been done up to that time, is very similar to the difference of the criterion by which Cuvier revolutionized taxonomy in the field of natural sciences. For Cuvier the parameter to classify animals was no longer the external appearance but the organizations of four functions: breathing, digestion, circulation, locomotion. This allowed to classify animals from simple to complex, from ameba to man.



We can find all this in Durand, first in *Recueil et parallèle des édifices en tout genre* and later in *Précis des leçons d'architecture*. In these two texts he classified architecture hierarchically from simple to complex. His idea of progression was not a mere taxonomic criterion but a design principle, as we have seen elsewhere in this book.

Systematic taxonomy has been used not only for entire buildings but also for parts of them. This happens in a peculiar genre of taxonomies, the parallels. Two of the most well-known are the *Parallèle de l'architecture antique avec la moderne* by Roland Fréart de Chambray of 1650 and the two centuries older Charles Normand's *Nouveau parallèle des ordres d'architecture des grecs, des romains et des auteurs modernes*.

In these books the classical orders are selected and compared in a rigorous manner.

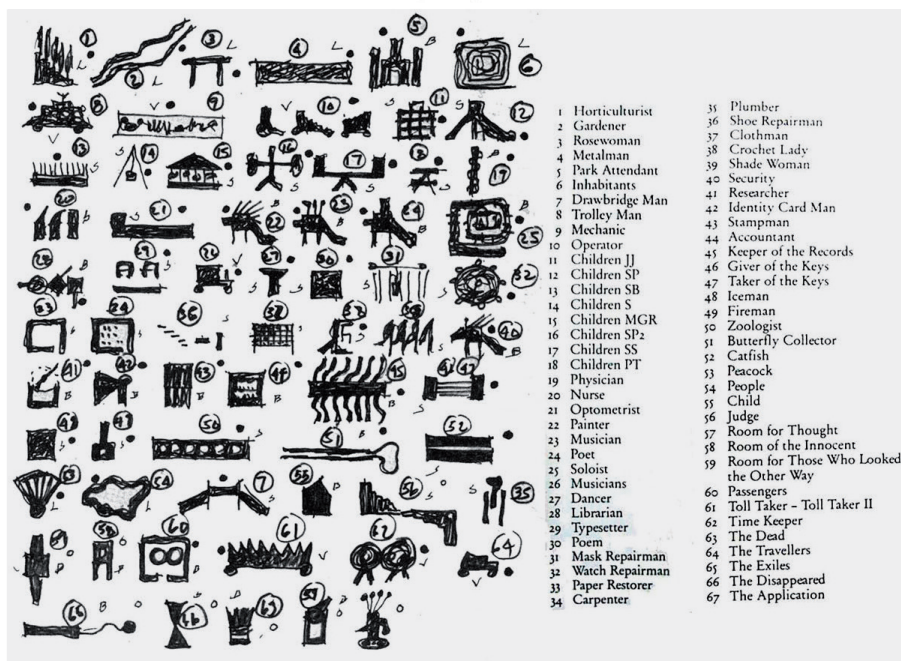
Normand, for example, considers five Renaissance treatises: Palladio, Scamozzi, Vignola, Serlio e Alberti. In the case of Fréart de Chambray the focus is extended including Bullant and Delorme, Barbaro and Cataneo. Yet the case of Fréart is significant in his confronting not the order but its geometrical dimension. His drawings are indeed known for their peculiar format in which columns, capitals and other elements are drawn by half and juxtaposed in pair making differences evident in the middle of the image where the format with proportions are written. As we said, the second basic way of classifying is method. A typical example of methodic taxonomy is

*Les edifices antiques de Rome* by Antoine Desgodetz, published in Paris in 1682. The publication date is not meaningless since this work lays between the first edition of Claude Perrault's *Vitruvius* and his later works, the *Ordonnance de cinq especes de colonnes selon la methode des anciens* and the second translation of *Vitruvius*.

The point is that Desgodetz's taxonomy certainly influenced Claude Perrault, confirming most of his ideas about arbitrary beauty and ancients' proportional systems.

Desgodetz's work consists in the accurate surveying of 49 Roman buildings. In this case there is no parameter chosen. There is only a topic assumed that

John Hejduck,  
"Victims" entry for the Prinz-Albert-Palais  
Competition in Berlin, 1984



establishes the limits but not its order. It is actually the focus on old Roman buildings, regardless of all the possible ways of placing them together to make the essence of the work. In this sense we can talk about method.

### Collecting architecture

It is impossible to classify without collecting. A taxonomy is, unavoidably, a collection. We fall then within the realm of several connected notions: list, herbarium, catalog, *summa*, corpus, dictionary, encyclopedia, atlas, repository, inventory, pantheon, museum, archive, library are some of them. I find useful now shortly to treat the analogy that links handbooks and treatises of architecture, as peculiar expressions of architectural theory, and actual museums of architecture. Under the light of the above reported observations on classification.

Indeed, a parallel is present: as classifications are, willing or not, collections of architectures – i.e. classifications brings about collections, in the same way collecting architecture goes through its classification. Museums of architectures are therefore produced by classification, with interesting overlapping with handbooks.

The museum of architecture was born in France in the 18th century not as a free standing institution but as an appendix of schools.<sup>160</sup> Its very origin therefore betrays a pedagogic goal. A museum of architecture, made of models and fragments, as well as drawings,

160. Dominique Poulot, "Architectural Models. The Birth of the Museum of Architecture in France During the Revolution." *Lotus International*, 35, 1982, *The Museum of Architecture*: 32-36.

has a primary aim of informing about architecture. Museum pieces act similarly to examples in treatises, *exempla* as against theory, once again.

But collecting is pursued not only to instruct but also to study, to popularize, to contemplate, to reproduce reality. The “battle of the collector against time”, becomes also, in the case of architecture, a battle against space.<sup>161</sup>

As far as museums of architecture are concerned, a preliminary distinction has to be made between architectures that become museums themselves and proper museums of architecture.

The first case occurs:

- in Romantic gardens where the percourse leads through pavilions built with styles taken from all times and places;
- in the great universal expositions and fairs, events that nowadays are becoming more and more popular. Their rationale is also behind the so cold “monumental itineraries” and the widespread consume of “cities as museums” of mass tourism.

Sometimes it is the actual single building to become museum of architecture, as private collection and therefore as personal manifesto of the owner: Villa Adriana is a paradigmatic case. But also, in a different manner, as a real museum of embodied fragments of architecture. This is the case of the stylistic *pastiche* where the exhibition of styles blends architectural design with a museum graphic act. Of course John Soane’s house in London is a paradigmatic example. Much more traditionally architecture can stay in the

161. Franco Rella, “The Vertigo of the Mélange. The Collector’s Fight against Time,” *Lotus International* 35 (1982), *The Museum of Architecture*: 56-61.

museum without being embodied by the building: these is the case of museum of models, fragments or drawings.

I can merely mention the Galerie d'Architecture of Louis François Cassas open to the public in 1806 and rich of a series of very detailed architectural models, the Museum of French Monuments in the Convent of Petits Augustins and the German Architecture Museum that Henrich Klotz has arranged in Frankfurt. Ibridizations of the types enlisted so far, happen with several mixed forms like the museum-facade like Canova's house in Rome. Or the case of entire buildings like the Cloisters in New York and Gardner Museum in Boston.

A special note must be made for those representations in which architecture "virtually" undergoes collection. For example panoramas and dioramas, in which the city is represented as a collection of its symbolic monuments or theatrical scenographies where architecture is clearly rendered as collection. The feeling of wonder, of fantastic but also of unusual, exactly as in late Renaissance wunderkammern is actually at the origin of another architectural enterprise in painting: architectural capricci e vedutismo compositions.

Several evidences of this trend can be found in Canaletto in connection to the topic of capriccio. Notoriously their architectural relevance has been stressed by Aldo Rossi. In many of Canaletto's paintings what has been called capriccio turns out to be the unexpected and irreal grouping of monuments:

Palladio's Rotonda juxtaposed to ruins of classical Rome and palaces of Vicenza or, in another painting, a group of Renaissance and gothic buildings around a big square or buildings of Padua mixed with unidentified Roman ruins and Caio Cestio pyramid or, as in one of the most celebrated capricci, buildings



Architectural Design Studio of Hoesli-Hofer  
at the ETH, 1979, Design proposal

from Vicenza, Palladio's Palazzo Chiericati and the Basilica along Venice's Grand Canal together with the Rialto's bridge according to Palladio's unexecuted design. Aldo Rossi's Città analoga and, to some extent, Ungers's "City of composite forms" are partly conceived with these notions in the background. Designing a building, grouping together its elements, much as defining the pattern of the city is, to some extent, a museographic action as far as it establishes a collection of parts, elements or buildings.

### **Bruno Zevi, Umberto Eco and the idea of list**

Not far from these observations is Bruno Zevi's idea of "Listing as design method." Drawing substantially on Umberto Eco's reflections on the list as a pivotal way of thinking, Zevi proposes the list literally as a design tool. In several occasions Umberto Eco has remarked how the knowledge and representation of the world finds over the history two different, almost opposite topoi, the *summa* and the list.<sup>162</sup>

The *summa* is tied to the idea of finite, of completeness. It has the aim of encyclopedically represent a certain reality. Its model is Achille's shield as described by Omer in the Ilyad.

For Eco another possible way of thinking, knowing and describing groups of entities is the list. It is linked to the possibility of "unending," it is based on the idea of infinity and on the archaic idea of accumulation. It is a kind of surrender to total representation: something can always be added to the list. Its

162. Umberto Eco, *The Infinity of Lists* (New York: Rizzoli, 2009).

pivotal example is the list of Trojan ships, by Omer, again in the Iliad. Of course much as our culture is scattered with *summae*, encyclopedias, atlases, panoramas and other forms of exhaustive representations, same applies for lists. We might mention the list of the objects in the drawer of the kitchen of Leopold Bloom in Joyce's Ulysses or the list of divinities in Hesiod's Theogony, or the list of dead people in The Hill by Edgar Lee Master. And visual lists like Giovanni Paolo Panini's collector's room or other relevant paintings especially by the Breugels or Bosch.

The *summa* is consolatory, it does not open up new sceneries, it is a kind of ending point, definite assessment. The list, on the contrary, implies a possible continuation, a graspable future, a prospect kept in something that cannot be listed or represented much as the feeling of infinite. The list misses something which is also inexpressible, if not even unthinkable as in the celebrated list of animals from a fantastic Chinese Encyclopedia by Borges, which is the pretext's for Foucault's *Le Mots et le Choses*. In this sense the list is close to the architectural project.

Drawing on these observations Bruno Zevi has proposed a probably too abrupt "listing as a design methodology."<sup>163</sup> For Zevi the list is an actual design method which should allow to use elements of architecture with limits due to preowned concepts, modules, standards alignments, uniformities.

He praises, after Eco, the "accumulation" typical of Medieval times when, as in the treasure of the Duke of Berry, the most disparate objects were joined together.

163. Bruno Zevi, "Listing as design methodology," *L'architettura. Cronache e storia*, n. 128, 1966: 72-73. Bruno Zevi, *Il linguaggio moderno dell'architettura. Guida al codice anticlassico* (Turin: Einaudi, 1973)



Both Eco and Zevi observe that if listing in older times was given to the impossibility of having any other systematic approach, listing has nevertheless a permanent value. It can be, as in Arman's accumulations a deliberate refusal to a rationalized systematic classification. It can be "a wanted disorganization of a world reduced to list for the sake of being free and inventive as against a form that has to be given to ... the poetics of objects lays middle-way between list as surrender and list as project."<sup>164</sup>

164. Umberto Eco, *Le poetiche di Joyce. Dalla "Summa" al "Finnegans Wake"* (Milan: Bompiani, 1966).

Zevi, clearly links this idea of disorganization, or "disordered order," to that of freedom, which notoriously is at the apex of his concerns. As apologists of the lists he quotes his usual heroes, Wright, Aalto and the Ronchamp's Le Corbusier, as well as obvious examples like Olbrich, Gaudi and Bay Region style architects. As we know the title of his book *The language of modern architecture* is meant to be a parody to John Summerson's *The Language of Classical Architecture*. Yet it is paradoxical that, despite Zevi's praise for freedom and disorganization, the book carries the somewhat prescriptive subtitle *Guide to the anticlassical codex*.

Later also Aldo Rossi dwelled upon a possibility of disorder, yet his understanding is far from Zevi's propagandistic concern. Rossi hints at a more problematic and suffered disorder, more meant as an architectural outcome of an inner state of mind: "I felt that the disorder if limited and somehow honest might best correspond to our state of mind. But I detested the arbitrary disorder."<sup>165</sup>

165. Aldo Rossi, *A Scientific Autobiography* (New York, 1980). The passage has been republished as "The disorder of things." *Lotus International*, 156, 2014: 14-15.

## 11 | Space and the Domestic

The theme of domesticity in architecture has come to the fore since modern architecture has long been under scrutiny for its alleged inability to meet the standards of mind-body comfort. This very topic has been addressed as a general question investing the whole of architecture, as well as the specific case of the house.

But we ask: what is the common denominator between the general requirement for house “domesticity” made by any architects or their clients and Georges Teyssot’s appeal for a “science of domesticity”?<sup>166</sup> What is the common denominator - or significantly what sets them apart - between the “warfare domesticity” written about by Beatriz Colomina<sup>167</sup> and the “domestic landscape” of the *Triennale di Milano*? Is it only thanks to the “common ground” offered by language, by shared wording and speech, that different visions converge?

Moreover there is a good deal of ambiguity in the word itself: the etymological connection to the house - “domestic” *alias* pertaining to the “*domus*” - should not lead us to believe that domesticity is the natural and only preserve of houses. Domestic must be the “place,” but this will of course happen at different levels of

166. Georges Teyssot, “Acqua e gas a tutti i piani. Note sulla estraneità della casa.” *Lotus International*, 44 1984: 82-93.

167. *Domesticity at war* (Cambridge, Mass.: MIT Press, 1984).

intensity. We can refer to the domesticity of a villa, a public place, a building, a street without making them par for the course with a house. The most various ideologies converge on the development of this notion which is so much part and parcel of the vocabulary and practice of architecture. Domesticity draws its meaning and essence from the ideas of privacy and seclusion, from the relation with one's family and it is also interwoven with the phenomenon of the separation between the work space and the personal and living space. "Domestic" is synonymous with private vs public and internal vs external. Domesticity is also immersed in the ideology of serenity and it relates to the women's role, since the domestic space is a feminine space. In certain cases the domestic space is the mark of independence in the exercise of ownership, the mark of seizing.

Understanding up to which point these different ideas should be questioned or accepted is essential.

We might assume that domesticity is a quality of the place, and it defines the place itself, but it is so only as long as it can be generalized. We are referring here to the quality of spaces usually considered as domestic: a rural house, a town flat or fragments of domestic space, like a Dutch *stoep* or an Anglo-Saxon backdoor. Let us think to their being domestic, that is to say pleasant, cozy, comfortable and comforting, discreet and certainly neither austere nor imposing.

But if we go beyond that and move a step forward in order to understand what these conditions depend on, we are bound to notice that they are the endpoint of

various elements: the materials of architecture, types of furniture, dimensions and proportions in the space, climate, objects, types of usage, functions. In other words, we are dealing here with space types that can be defined and classified, but classification is not enough to penetrate their inner nature: something closely connected to their representation potential comes into play. We are referring again to the notion of “character. Therefore domesticity is a character and not just a type in architecture. To better show this we mention only the special case when the domestic character gets contaminated. The passage from domesticity to non-domesticity has often been the focus of theoretical meditation and project practice. In his Poggio a Caiano’s villa, Giuliano da Sangallo introduced for the very first time, and in a revolutionary manner, an element belonging to sacred architecture - actually the element *par excellence* of sacred architecture - the dome, into secular architecture, a private villa. Palladio, a master of contamination, revisited the same theme in his Rotonda and turned it into a tenet of his anti-alberesque theory. Palladio claimed the superior representative quality of the house and supported its transition from the private domain to the public one. His church *facades* are the ultimate paradigm of this contamination. His portals equally befitted the house of God and the house of man. This proposition was clearly at odds with Alberti’s vision, according to which “the portal of a private house must not imitate the grandeur and majesty of a temple.”<sup>168</sup> In this case the domestic character becomes an element of the project by way of ne-

168. Alberti, *De Re Aedificatoria*, cit., IX, 1.

169. "The great cloud which hung, not only over London, but over the whole of the British Isles on the first day of the nineteenth century stayed, or rather, did not stay, for it was buffeted about constantly by blustering gales, long enough to have extraordinary consequences upon those who lived beneath its shadow ... But what was worse, damp now began to make its way into every house — damp, which is the most insidious of all enemies, for while the sun can be shut out by blinds, and the frost roasted by a hot fire, damp steals in while we sleep; damp is silent, imperceptible, ubiquitous. Damp swells the wood, furs the kettle, rusts the iron, rots the stone. So gradual is the process, that it is not until we pick up some chest of drawers, or coal scuttle, and the whole thing drops to pieces in our hands, that we suspect even that the disease is at work. Thus, stealthily and imperceptibly, none marking the exact day or hour of the change, the constitution of England was altered and nobody knew it. Everywhere the effects were felt. The hardy country gentleman, who had sat down gladly to a meal of ale and beef in a room designed, perhaps by the brothers Adam, with classic dignity, now felt chilly. Rugs appeared; beards were grown; trousers were fastened tight under the instep. The chill which he felt in his legs the country gentleman soon transferred to his house; furniture was muffled; walls and tables were covered; nothing was left bare. ... and a drawing-room to glass cases, and glass cases to artificial flowers, and artificial flowers to mantelpieces, and mantelpieces to pianofortes, and pianofortes to drawing-room ballads, and drawing-room ballads to innumerable little dogs, mats, and china ornaments, the home — which had become extremely important — was completely altered." Virginia Woolf, *Orlando: A Biography* (London: Hogarth Press, 1928), p. 132.

gation, exchange and estrangement.

A memorable passage in Virginia Woolf's *Orlando* is able to convey the beginning of the Victorian era thanks to a powerful metaphor.<sup>169</sup> The scene is that of a dramatic change in the already bleak English weather: a general turn for the worst marked by a sudden increase in chilliness and wetness. The stress, however, in Woolf's description is not on the weather change itself but on man's adjustment to this external event. At the heart of this extraordinary metaphor there is the making of the house. The climatic metaphor wants to highlight the strong relation between ways of life and houses.

And yet, it is important to question the two principles underpinning this passage: architecture is the only component in the definition of space. It rather is a segment or a sequence in a more complex process. If anything, architecture is the magnet for a series of elements such as objects, utensils, clothes, decorations, climate and a number of other ones with a role in the definition of space. The second principle is the one establishing an unbreakable bond between architecture and human body: architecture is the answer to needs of the human body. Woolf metaphorically tells of the genesis of the Victorian house<sup>170</sup> as a process triggered by the universe of bodily feelings, perceptions and sensations: humidity and wet, coldness, light are the elements prompting and generating a need for protection and "clothing" of the body. This need finds its natural outlet and amplification in the house. Mario Praz in *The Philosophy of Furnishing*, offers his personal

meditation on the aforementioned passage and he too notices the relevance of the ideas of body and clothing. But Praz adopts a more accurate vocabulary, preferring the word “cover” to the word “lining.” The distinction is subtle and shifts the focus of the discussion in favor of a more architecture-centered approach.

The relation between the covering of the body and the genesis of house decoration, on the one hand, and the very definition of house, on the other, is seminal: the shared etymology between *habitus* and *habitat* in Latin is, in this regard, symptomatic. House architecture is therefore an extension of body covering and sheltering, a further layer of protection after the one offered by clothing. Hugo Häring took this theme to heart and regarded the house as the external and extreme cover for the body; a vision that found its paradigm in the idea of the house as a second skin. That was what Häring wrote in support of his organic theory: “It is still unconceivable to many the idea that even a house may develop exactly like a body entity, that a house may be a functional adaptation of the original body shape, that a house may be seen as an extension of man’s skin: all in all an organ.”<sup>171</sup>

Sartre’s words come to mind: “My body is everywhere: the bomb hitting my house hits my body, too, since my house is the outpost of my body.”<sup>172</sup> And for Gaston Bachelard the first imaginary room man can think of, is just around his body.

When we focus on the analogy between body and architecture we refer to the phenomenological understanding which we have already treated in several



Vanessa Bell painting the portrait of Lady Robert Cecil, 1905

170. Woolf and all the Bloomsbury group had the house and domestic space at the core of their interest. Cfr. Christopher Reed, “A room of one’s own: the Bloomsbury group’s Creation of a Modernist Domesticity,” in Christopher Reed, editor, *Not at Home. The Suppression of Domesticity in Modern Art and Architecture* (London: Thames & Hudson, 1996), pp. 147-160. See also Aldo Rossi: “Ho imparato tardi a comprendere gli interni vittoriani, le mezze luci, la tenda scolorita, lo spazio vuoto che deve essere colmato e sempre coperto e velato”. Cfr. *A Scientific Autobiography*, cit. p. 40

171. Hugo Häring, “House as Organic structure.” *Die Form*, 7 (1932): 218-223.

172. Jean-Paul Sartre, *L’Être et le Néant: Essai d’ontologie phénoménologique* (Paris: Gallimard, 1943) translated in English as *Being and Nothingness: an Essay on Phenomenological Ontology* (London, 1943).

previous parts of this book.

These two principles – the relation between architecture and body and the negation of architecture as the sole agent in the definition of space will be the focus for the anglophile Loos. He, with Woolf's subtle irony in mind and echoing Semper, will make a proper theory: real architecture is about clothing, sheltering, protection. Most certainly it is not a tectonic shroud. Instead contact surfaces are the quintessential object of architecture.

Far from admiring in the late XVII century house culture the stress on *décor*, Loos saw in the relation with the universe of objects surrounding the human body, the only possible way to understand architecture. His interest in objects, clothes, fashion and up to haircuts and tattoos is symptomatic of this frame of mind.

The already mentioned passage from Woolf placed in a single, indissoluble context clothes, objects, tools, decorations, furniture and houses – a mixed entity held together by the relation with the bodies of the dwellers. We have also seen how architecture, through character and *décor*, finds its way to meaningfully relate with this entity, but we want now to stress that the world of objects and the relation between objects and architecture take on unique and special features which are deserving of special attention.

Aldo Rossi reveals how the frequent and nearly obsessive presence of peculiar objects like cups and coffee machines in his designs is the result of a juvenile fascination. This attraction, belies a purist inclination for the quality of pure shapes. We are also aware that

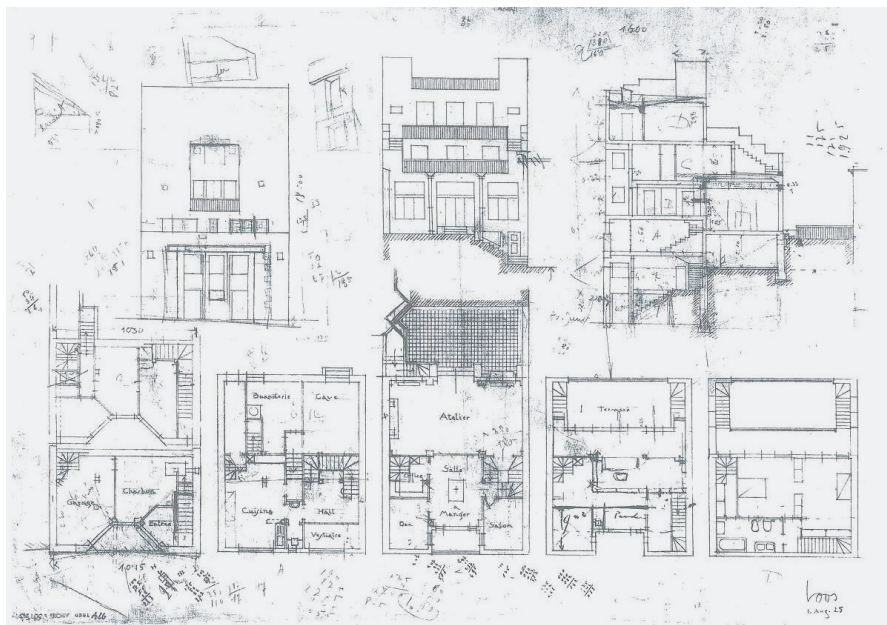


Edward Hopper,  
study for East Side Interior, 1922

this stubborn investigation of the enigmatic nature of objects, reveals a latent surrealism, the willingness to retain the metaphysical dimension of the object. The relation between the out-of-scale objects designed by Rossi or painted by the surrealists like Magritte or by the masters of metaphysics like De Chirico is all too apparent, but what we want to notice is that the objects in Rossi are important also for the condition they expresses in relation to the house. In Rossi's designs objects manifest themselves in their attitude to shape the space around them. Objects and architecture, deep down to their essence of pure shapes, are on the same level. *The Domestic Theatre* that Rossi staged at the Triennale of Milan, for all of its evocative title, finds its landmark in the presence of coffee machines placed in the cross-section of a house.

The theme had been a recurrent one for Rossi for a very long time: in *The Architecture of the City*, he had already commented on Berlin's houses whose cross-sec-





Adolf Loos,  
drawings for Tristan Tzara house

tions revealed fragments of domesticity abruptly interrupted. Later on he had resumed this meditation in his *Scientific Autobiography*. In this respect we can certainly appreciate De Chirico's words on the condition of "estranged" furniture, no longer part of the house. But furniture, objects and man's other tools are what Baudrillard has defined as a system. They establish mutual relations among them and these relations make the single elements less important *per se*. Their relation with the house remains the crucial factor, though, because the house is the place where the system finds its definition and its boundaries. This special status the objects enjoyed has been brilliantly explored by Georges Perec in, for example, "Notes about the objects on my desk."<sup>173</sup> However, the external wrapping

173. See *Penser/Classer* (Paris: Hachette, 1985) translated in English as *Thoughts of Sorts* (Boston: David R. Godine, 1986).

represented by the house is the barrier separating a system of objects from a much larger and more general one. De Chirico's meditation about "houseless" furniture is precisely marked by the absence of this barrier. Neither can we be surprised when Rossi cites Edward Hopper as one of the principal reference for his architecture. Hopper succeeds in clearly defining a space – and its atmosphere – as a relation between objects and people, within the specific framework of the internal/external communication. In his images, characteristically and purposefully dealing with urban settings, it is in the potential outwardly projection of the interiors that the relation with the objects manifest itself. We have previously mentioned the obvious connection between the notion of domesticity and that of house: where if not in the *domus* should we trace back the origins of domesticity? It is the house the setting of the maximum identification between person and place or among person, place and objects.

Nevertheless domesticity is a dimension of architecture that can also be found in the entire spectrum of the architectural experience nonetheless: a garden, a square, a street, of any public space. But let us shift our focus back onto the house: we hope to break the misleading equation house/architecture without giving up on the wealth that the overlapping of the two notions may yield. We are referring to the albertesque and more limited overlapping between house and city. The combination Alberti envisaged can be enlightening. But if for Alberti the overlapping takes place between house and city, for many architects and thinkers, the

combination is between house and architecture, either unconsciously, or on a mythological level. For Vitruvius, Laugier, Le Corbusier and many others, the archetype, the primal shape capable of expressing the essence of architecture has always been the house.

Yet the idea of the house people have in mind is far greater than the physical space. From a dimensional point of view the single house unit presents itself as a simple element, giving the illusion that it is a far easier task in terms of design. In reality there is an intervening factor that makes the equation more difficult. As a matter of fact the house is the place of the maximum and permanent identification between dweller and dwelling, man and architecture. This reflected in the different words used for one's own home and for the more generic house. The close relation between dwell and dweller is further enriched by ancestral meanings: the house as a space of transition. Man comes from the womb and is nature-bound - the house is just a go-between. For Gaston Bachelard the theme of reconciliation presides over the vertical distribution of the house: from the dark cellar mirroring our irrational soul up to the roof, the public space of our rational mind. But Gaston Bachelard further enlightens us on the psychological dimension of space, making clear how the house is a psychological construction besides being a physical one. Imaginary walls are constantly built across space by our mind and they often represent stronger shelter than the real ones, but sometimes verging on the non-existent. That is the way how owned spaces, protected spaces and beloved

spaces can exist. A science that, in Bachelard's opinion, could be called topoanalysis could help us in classifying them.

If we move past Bachelard's reflections on the psychological house we cannot help but going into the territory of the disturbing and uncanny, which Freud outlined with great insight in his famous essay. The house, a concentration of intimacy and familiarity, becomes, in Freud, that combination of objects, situations, places capable of being angst-inducing. In this regard it is highly significant how the German word *umheimliche* - which is translated as "disturbing" or "unfamiliar" - is in relation to the house (*heim*). Being uncanny, disturbing, upsetting, disquieting means being non-domestic, in no relation at all with the house.

In Freud the feeling of belonging to house and family implies a hidden desire for the maternal womb. This upsetting estrangement of the house "is not actually anything new, but rather something that has been familiar to our psychological life for ages and that has grown alien because of repression."<sup>174</sup> A repressed desire also inspires nostalgia – a feeling closely connected to the upsetting - and establish a relation of "non-belonging to a place based, that too, on hidden and repressed thoughts." Even in this case psychology and language go hand in hand in German where the word homeland (*Heim*) echoes *umheimliche*.

Contemporary architectural design is more and more oriented toward this direction. An examination of contemporary experiments about the house is testimony to this relevant trend.

174. Sigmund Freud, "Das Umheimliche," *Imago*, vol. 5 (1919), pp. 297-324, translated in English as "The Uncanny."

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The book addresses the issue of reversibility of the discipline of architectural design. It is based on the assumption that architectural thinking is complex and unstable. The study spans the extreme ends of architectural thought. On one hand, it aims at describing the reversibility of architecture and, on the other hand, it critically reconsiders some "fundamentals" of architectural thought. Indeed, despite the apology of instability, and praise for reversibility the book tries to focus on some archetypical "thinking tools" and the way they have been used within architectural theory. Principles, rules, abstraction as well as type and scheme are traced in their complex itineraries within architectural design especially in their early development in classical theories culminating in the Renaissance Neoplatonism. The impact of Cartesian thinking is taken into account as far as it acted to reverse architecture leading it towards its contemporary pragmatic and instrumental status. Within this frame a special place is given to the key notion of "construction" which ties together the above mentioned thinking tools and has been in certain cases at the core of architectural design. The role of "construction" and, more specifically "logical construction," within architectural knowledge is analyzed in Giorgio Grassi, with reference to thinkers like Descartes, Kant and Foucault. To achieve this aim some of the realms that both Foucault and Grassi have "inhabited" are considered in detail, namely taxonomies and handbooks. Other topics like the use of wood, clothing, landscape, secularization help to broaden the problematic field. The book owes much to Heideggerian thought. Yet it is vaguely permeated by an underlying discomfort with the load of that tradition. To some of the conservative and pessimistic views brought about by that line of thought, these writings attempt to substitute a more positive attitude.

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